



# e-series, the full electric Avant.

The Avant e-series features perfect loaders for when indoor ventilation is limited or non-existent or there are strict noise restrictions. Also, the running costs of an e-series loader are significantly lower than any diesel-powered loader due to the lack of a combustion engine. One of the advantages of battery-powered machines is simpler maintenance. The batteries and electric motors are practically maintenance-free, which means clearly lower maintenance costs for electric loaders.





#### **Editorial**

o far the year 2020 has thrown a few curve balls at us. First, the winter was very mild and, in most of our operating areas, there was hardly any snow. This was not the best start for 2020, we thought. Little did we know about what was ahead of us later in the spring.

In mid-March we had the biggest show for 2020, the ConExpo in Las Vegas. Avant was exhibiting and I was also at the show myself. During this show, the Covid-19 really started to be on the news and the pandemic really spread fast. Right after the show many borders started to be closed as well and heavy restrictions were made leaving practically everyone affected in one way or another by the pandemic. Everything seemed to be closed down for an undefined period.

After the initial shock, things started to move again surprisingly quickly. There are of course big differences between different areas where we operate, but for the most part our customers have been able to work during this crisis. We have also been able to keep our factory running throughout this crisis, even though it has not been easy. At the moment, our sales and manufacturing are actually looking surprisingly good and we are optimistic about the future.

The past few months have really been something I know we will all remember for the rest of our lives. Needless to say, I hope that we are able to slow down and stop this disease which is making life very difficult for many.

I wish you all good health and a better ending for 2020 than the start of it was.

Best Regards *Jani Käkelä* Executive Vice President

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# Production investment program right on track

In the spring of 2019, Avant announced an ambitious goal to increase the weekly production of its 400-800 series by about 50 percent. In order to meet this goal, the company unveiled an investment program of EUR 10 million. Initial investments in primary production and new machine installations have now been put in place, and the entire investment program is meeting milestones.

We're beginning to see the benefits of the investment at an accelerating pace. We have already significantly increased automation in primary production. One way to secure future production growth opportunities is to ensure that the plant's machinery is in prime condition. We are moving towards this goal at a good pace," Avant's Production Director Saku Vastamäki explains.

The benefits of increasing automation are clear: increased efficiency, consistent production quality and less need for physically demanding work. "Automation also has a significant impact on the traceability of work queues and the transparency of production processes. This gives us a big advantage, especially in planning production load and solving problems quickly.





Increasing automation means production processes are optimized as a whole," Vastamäki says.

Replacing manual work with automation means that in the future, employees will be increasingly responsible for programming devices, monitoring their operation and acting as process quality controllers.

#### Updating the FMS-laser system

Avant's primary production line uses three laser cutters connected to an automated material warehouse. As part of the investment, the oldest laser cutter in the line has been replaced with a new fibre laser. The other devices are carbon dioxide or CO2 lasers (model year 2010 and 2015). "As a replacement investment for the old cutter, we bought one of the most modern fibre lasers on the market. Its

cutting speed is up to 2-3 times faster than the old device," says Vastamäki.

Cutting automation has been increased and picking up the needed pieces has been robotized in the laser automation system. All three lasers are now also integrated into the ERP system. "Because replacing the old laser with a new one facilitates traceability and transparency in the cutting queue, planning and monitoring operations has become easier," Vastamäki explains.

All materials up to a plate thickness of 12 millimeters are cut at Avant's Ylöjärvi plant. Most material used in production are cut from plate thicknesses ranging from 4 to 8 millimeters. "The equipment we use allows us to cut materials up to 20 millimeters thickness, but to optimize storage capacity, we have focused on thinner plate thicknesses," says Vastamäki.

#### PRIMAPOWER LG fibre laser

- one of the most powerful devices on the market
- up to 50% additional capacity
- automation eliminates heavy manual work

links to the ERP system

All materials up to a plate thickness of 12 millimetres are cut at Avant's Ylöjärvi plant.

Saku Vastamäki and Mika Halme show how the fibre laser is controlled via an external control panel.



#### Automatic bending machine handles heavy parts with ease

In the summer of 2019, Avant was the first in Finland to take into use an automatic bending machine. About 80 percent of the metal parts used in Avant are suitable for automatic bending, so the machine can potentially be used for hundreds of thousands of parts in the course of the year.

"The new machine has speeded up and streamlined bending operations. In practice, the new machine is used on all the heaviest and most difficult-to-handle parts. We still have three manually operated press brakes that handle parts whose grip surface is not sufficient for an automatic device," says *Mikko Laurila*, who operates the new machine.

Because the edge produced by the machine does not rely on human estimation, the edges are always accurate and of uniform quality. "You appreciate the workmanship and uniformity in the later stages of production. The metal parts that have gone through the automatic bending machine are easier to fit together, so the machine has a clear impact on the whole production process," says Laurila.

"The change has had a positive impact on my own work. It has been great to be involved in the project right from the start. It's a very interesting tool in many respects. Programming makes sense, and the amount of physical exertion I go through is considerably less – which means that I have to go to the gym more in my free time," he adds with a laugh.

#### **TRUMPF Bend Master**

- unmanned production
- automation eliminates the heaviest work steps
- additional capacity optimises bending processes
- value of the investment 0.9 M €

A powerhouse ready for work and a new automatic edging machine in the background. Mikko Laurila operates with millimetre precision.



Joel Yrjölä has worked at Avant as a welder since 2002. Over the years, he has seen how production has developed to meet the needs of the company and its products.

#### Two new robot cells bring efficiency and precision to boom welding

The investment program also includes two new robot cells – each robot cells consists of a welding robot and a finishing robot – used in boom manufacturing.

"The new system allows the boom assembly to be completed without additional transport and work steps, giving boom manufacturing significantly more power and speed," says Production Director Saku Vastamäki.

Avant uses a telescopic boom, with the outer and inner boom made in pairs. The welding time of one pair of booms has almost halved since the introduction of the new robots.

"In the new robot cell, the welding robot and the finishing robot can be run simultaneously, which means that both are constantly in operation. The robots also keep running during programming. I would estimate that it currently takes about 30 minutes to make one pair of 600 series loader booms, instead of the previous less than an hour," says *Joel Yrjölä*, who is responsible for programming and commissioning the new system.

#### Yaskawa welding robots

- cells are customized for welding and finishing Avant booms
- boom pair is completed at once
- efficiency and speed of manufacture
- value of the investment 0.9 M €

One major difference between new robot cells and previously used robots is the possibility of remote programming. "When programming can be done remotely you can see the effects in the efficiency of the robots and this directly affects the planning of the workload. With these two new cells, we can easily make booms for all Avant models, meaning we can run more flexibly. It is also much simpler to correct programs and make possible additions remotely afterwards," says Yrjölä.

"Overall, the development is going in a good direction. The quality of our products will be further improved, development proposals will be skilfully tackled and the necessary changes will be made quickly. From my point of view, it is very motivating to learn new ways of working," Yrjölä concludes.

# Open the door for the

# narrower Avant 423

he Avant 423 compact loader has a well-deserved reputation as a workhorse. Packed with enough power to operate most attachments, the Avant 423 can do the job of a compact tractor, an ATV quad bike and a ride-on lawn mower plus more. And now, it's become even more flexible.

One of the most multi-functional articulated diesel compact loaders on the market, Avant 423 is now available with special narrow tires, bringing the machine's total width to just 930 mm. The previous narrowest model was 990 mm. Production of the new model, which is so narrow it can be driven even through one meter wide doors, began in May this year.

Customers in construction, demolition and landscaping often need to work in narrow corridors. Their feedback led to the development of the new Avant 423. The model is also perfect for the agricultural industry – there are many narrow corridors and doors on cattle farms, especially on the calf side, that a loader needs to navigate smoothly.

The new narrow-wheel model has all the features of the previous one and delivers the same quality performance associated with the Avant 423. It is equipped with a Kubota 22hp diesel engine, the most efficient engine on the market in this loader size class. The motor not only delivers power, but has great torque, making it ideal for loader use. The low noise level generated by the low RPM engine is good for the both the machine operator and the environment.

#### The telescopic boom works wonders

The machine has a lifting power of 550 kg. With the optional telescopic boom, the Avant 423 can reach up to 2.75 meters, the best in its class. The telescopic boom adds not only height, it also makes it possible to work efficiently even in tight, awkward places. The boom can be used to load a trailer from one side. The telescopic boom facilitates and improves the use of machinery: it makes working with the many available Avant attachments easier, improves visibility to the working area and increases quality and speed of working. Together with the rigid articulation joint and excellent visibility offered by Avant 423, the telescopic boom helps improve safety.

#### **High-flow hydraulics**

What really sets the Avant 423 from others is its hydraulic performance. With an oil flow of 34 l/min available for attachments, the Avant 423 is the most powerful on the market in its class. This makes it the perfect machine for handling any task, from snow work to lawn mowing, and makes it compatible for efficient use with more attachments.

A hydraulic oil cooler equipped with an electric fan comes standard on all Avant models. This proper oil cooling system, a feature not usually available in this machine class, is necessary to guarantee the performance and efficient operation of the loader with other attachments.





Image: St Andrews Links Trust

More and more golf courses have their own Avants. The legendary St Andrews Links is one of them. Avant has an important role in managing the courses that are ranked in the top five golf venues in the world.

Image: St Andrews Links Trust



Andrews Links is one of the most important golf courses in the world. Located in its namesake town in Fife, Scotland, St Andrews Links is widely recognized as the "Home of Golf" – the sport has been played on the Old Course as far back as the early 15th century.

Managing gorse bushes – prickly shrubbery that can challenge even the best golfers – plays a crucial role in the maintenance and appearance of the courses at St Andrews. Properly managing gorse plants can be quite complicated. It is certainly not as simple as cutting the gorse bush down and allowing it to regrow. Managing a stand of gorse plants requires topping, coppicing (cutting bushes back to stumps) and sometimes even removing them by the roots completely, depending on the condition and location of the stand. Removing a large amount of gorse in one area can have an adverse effect on the flora and fauna. Keeping on top of gorse regrowth in important areas – by removing bushes from heather stands or keeping them from encroaching on open grassland and natural habitats on the links – is essential. Striking the proper balance when maintaining gorse stands on the golf course is crucial.

Proper gorse management is important also from the golfer's perspective in terms of the plants' strategic and aesthetic importance. When gorse stands are not managed properly, they can impede sight lines and restrict views – not only of the areas in play, but also of the general landscape. Gorse which is well maintained improves the overall layout of the course while allowing golfers to enjoy the spectacular views around them.



#### No more large holes on the course

Prior to taking Avant into use, the staff maintained gorse stands using chainsaws and bow saws. The team then carted the branches away in trailers for chipping. An excavator was used to remove roots. It usually left large holes on the course that required many additional labor hours to repair.

Sandy Reid, Director of Greenkeeping at St Andrews, purchased an Avant 700 series loader and tree shear after watching the machine in action. The Avant is used to remove gorse bushes from tournament spectator routes and grandstand locations. Today, the team almost exclusively uses the tree shear with the blade folded back to remove gorse roots. The team at St Andrews also purchased a loading bucket and pallet forks to fill their utility vehicles and to use with top-dressing machines. They quickly discovered that the Avant loader can be used to access tighter spaces than their masted rough terrain forklift.

According to Reid, there is virtually no disruption to the course when using the Avant and tree shear to remove gorse roots. This means it takes much less work to make the ground suitable for golf, as there are no large holes left by an excavator.

"Using the Avant in combination with a green waste mulcher has meant that last winter, three staff members did more than we could have ever realistically achieved with cutting and chipping, even if we had a staff of 12 carrying those duties out," says Reid.

The savings on labour have allowed St Andrews staff to work more on winter construction and maintenance programs.

"The amount of gorse management work we finished last winter just wouldn't have been possible without our Avant. Just the other day, a member of the staff told me that the Avant was one of the best pieces of machinery he has ever worked with during his 30+ years at St Andrews", Reid affirms.

#### St Andrews Links – The Home of Golf

- Golf has been played at St Andrews Links for 600 years.
- Today, there are seven courses at St Andrews Links: the Old, New, Jubilee, Eden, Strathtyrum, Balgove and the Castle, which opened in 2008.
- The British Open Championship has been played on the Old Course 29 times, more than any other venue.
- The Old Course has often been ranked as one of the best golf courses in the world.
- www.standrews.com

"Last winter, three staff members did more with the Avant than we could have ever realistically achieved with cutting and chipping, even if we had a staff of 12 carrying those duties out."

Sandy Reid, Director of Greenkeeping at St Andrews

Image (top right):
The overall goal of gorse management is to have a mixture of young and old gorse throughout the courses. An ecologist from the STRI (Sports Turf Research Institute) has outlined several management prescriptions for the different gorse areas across St Andrews Links.

Image (right):
The Avant is used with a green waste mulcher.
Last winter so much was achieved that more
time than usual was left for construction and
maintenance.





Cramo Finland specialises in equipment rental services. Just recently the company invested in five fully electric loaders.

The benefits of these Avant e6 loaders are zero emissions, quiet engines, and low maintenance.

"Demand is growing all the time at construction sites with noise and emission limits", says Product Manager Aleksi Lampinen.

any construction sites are located in the middle of the city and residential areas where noise limits can be strict. Interior work at construction sites demands quiet engines. When a silent low-emission loader is needed for e.g. interior demolition or removal of materials, a fully electric machine is a great choice.

Product Manager *Aleksi Lampinen's* work focuses on excavation machinery and telescopic handlers at Cramo Finland. Aleksi is responsible for the purchases in these product groups.

"We have about 30 Avants in our selection. The models are 630, 745, and 528, which is a little older one. We also have the older version of e6 – the fully electric model e5 – which we have been very pleased with. As the machine was upgraded with new technology in the form of e6, we got excited and decided to invest in it."

Cramo has signed the Green Deal, which means that the company is committed to grow the percentage of electric loaders in its rental machine selection. The new electric Avants are a part of Cramo's ecofriendly low-emission product family called Ecofleet. Cramo intends to grow the Ecofleet selection to support sustainable development and to improve their customer service.

#### Less noise, emissions, mess, and maintenance

Aleksi Lampinen sees many benefits in electric loaders.

"Their silence is an excellent feature when you are working indoors. Low sound level is also great for residential areas or places where a lot of people pass by during working hours. That is where demand is *Image*: According to Aleksi Lampinen, using electric machines leads to savings in fuel expenses. In addition, electric machines do not need much maintenance.

growing all the time. You can work with silent electric loaders also on weekends and outside office hours."

The staff at Cramo have not measured the sound levels of engines, but according to their everyday experience, Aleksi states that an electric Avant is notably quieter than a diesel engine.

Expanding the rental machine range to the zeroemission electrical side benefits both Cramo and their customers.

"In addition to our Avants, we have bigger electric loaders and electric excavators. The use of machines is becoming more varied and now we can offer electric machines also to customers who have not been able to use them for indoor work previously. When they notice how versatile a loader like the Avant e6 is, we get new customers."

The electric Avants rented by Cramo are typically used at construction sites for indoors demolition work or removals of materials. Cramo also serves construction sites in internal logistics, electrification, and installing work.

"With our Avants, we may unload loads or take plasterboards to working stations, for example."

Some clients may want electric machines even though there are no limits concerning noise or emissions at their construction sites. They just feel that electric machines are the sensible choice due to zero tailpipe emissions. What is more, electric machines do not require refuelling.

"Our customers also appreciate the fact that they do not need to store fuels at their construction sites. Every time you handle flammable liquids such as fuels, there are some



#### The eco-friendly Avant e6

- The fully electric loader is a zero-emission machine with an extremely low noise level.
- Especially suitable for indoor use where ventilation is limited or non-existent and there are strict noise limits.
- The first compact loader with a lithium-ion battery. Recharging the battery is easy
   a normal 230V/10A wall socket will do.
- Maximum lifting capacity: 760 kg.
- Maximum lifting height: 2,8 m.
- Maximum drive speed: 10km/h.

risks there. Customers value the ease of battery machines as well as safe and tidy maintenance on construction sites," Aleksi says.

Cramo also owns some internal combustion engine Avants which have been used for landscaping and yard work. They are also favoured by municipal builders, pavers, and construction sites.

"The electric Avants can be used for the same jobs but also for working in places where there are restrictions."

At Cramo, smaller loaders are only rented during three seasons in a year. They are not so much used in the coldest wintertime, i.e. between November and February – yet another reason why Cramo is not afraid of electrical technology.

#### A machine of the future

According to Aleksi Lampinen, acquiring an electric machine is worthwhile since it is so versatile in use.

"We see that electric loaders are a thing of the future. We believe that electrical engineering will increase in the long run. We want to get more experience of fully electric machines and we wish to have more customer feedback on them, too."

Lots of Cramo's customers need machines for various tasks, and the company wants to offer them a product range that is as diverse as possible.

"When they have a need that the Avant e6 offers a solution to, what could be better than that. And for us, it is an easy machine, when we think of maintenance. It is not fully maintenance-free, but it needs less upkeep, and there is no need to change oils all the time."

Cramo has already had some time to test their new Avant e6 loaders. According to their short experience, the purchase was worth it.

"We made this investment on the basis of the electric Avants that we've had since 2017, so we are somewhat familiar with the product. We believe that adding this new model in our selection was an investment for many years to come."



# **New GT cab**

# Increased visibility and efficiency – less noise and vibrations

The custom-built GT cab for Avant's biggest and most efficient 800 model range helps you get the job done even more efficiently. The cab is completely insulated from the rest of the machine frame by anti vibration mounts, which muffle vibrations, engine and hydraulic sounds effectively.

The glass surfaces of the GT cab have been designed optimally: the large glass surfaces offer better visibility, making it easier to see the attachment when operating the machine. The sunroof gives the operator better control, for example, when using buckets or pallet forks. The narrow B-pillar in the cab allows for an unobstructed view from the rear corner.

To improve the operator's comfort in cold weather, the GT cab has a larger heater. Air outlets located in the roof

and footwell make it easy to direct warm air to the windows to prevent them from fogging. Not even sleet can prevent visibility. There are also clever storage solutions for cell phones and other everyday items.

#### Engineered for a full day in the driver's seat

"The new GT cab is designed to make even a full day of driving comfortable with various additional options to choose from," explains *Mikko Piepponen*, who lead the designing of the cab.

"Avant's 800 series with the new custom-built GT cab is perfect for many industries such as property maintenance, for which the 800 series is also well suited thanks to its compact size. Storage solutions and other facilities, such as the heater and the suspension seat, bring much needed comfort for a full day in the cab. The suspension seat is just one of a number of features you can choose for your custom-built GT cab."

The wide range of options includes: extra work light kits for working; a road traffic kit to make the machine

road-legal in countries that require it; as well as air conditioning and a Bluetooth-enabled radio. A rear camera to make reversing and parking easier will be available later

There is also a detachable service hatch in the cab floor, which makes it much easier to perform maintenance tasks

on the articulation joint. Removing the service hatch doesn't require any separate tools.

The new GT cab is planned to fit all models starting from the 500 series. We believe every other machine will be equipped with a GT cab, which makes about 2,000 cabs a year.

# Avant opens a dedicated production line for new GT cab

dedicated assembly line for the new GT cab, which is tailored for 800 series machines, was unveiled in Avant's Ylöjärvi plant in April. The modern soundproof cab is a new Avant product introduced to meet a growing demand and even the most demanding operating needs. The new production line, run by four installers, makes it easy to assemble the cab flexibly.

According to production engineers *Niko Paukkunen* and *Ari Pesola*, who were responsible for the GT cab's assembly line's design and construction, the development of the process, auxiliary tools and material flows was a collaboration between production engineers and installers. "The GT cab has a lot of sub-assemblies that are assembled in their own workstations and then installed as ready-made modules in the cab. This speeds up the work," they explain.

The largest component requiring assembly is the front wall of the cab with its instrument panels, which is attached to the cab as a unit. To properly move and assemble heavy parts, new types of auxiliary tools were developed. New solutions were also adopted for the GT cab's upholstery, which is made of steel-reinforced polyurethane mixed with minerals. This material is traditionally used on flat surfaces, such as the floor mats of commercial vehicles and work machines. In the GT cab, it is used to cover surfaces with different contours, such as dashboards and panels, for sound insulation and durability.

For the air ducts on the roof and rear wall, Avant used thermoplastics shaped using blow molding – an unusual manufacturing method on precision and visible surfaces – to make the finished patterned surface. The supplier and Avant designers worked closely to ensure that finished product would result in a lightweight, stylish and easy-to-install component.

The rear wall is made of deep-drawn steel which is then welded to the GT cab frame, a typical manufacturing method in automotive body and panel parts. Deep-drawn steel has been used sparingly in work machines and is now used for the first time in Avant's production.

#### **Exploring the possibilities of 3D-printing**

3D-printing expands the possibilities for handling different shapes and surfaces. 3D-printing has already been used in

Niko Paukkunen and Ari Pesola

Avant's other cab designs, and will be used even more in future assembly work.

"In the future, we intend to use wood molds and 3D-printed components for example in the front wall and instrument panel installation jigs to facilitate installation work and improve quality," Paukkunen and Pesola say". "For example, the demanding tasks of building the dashboard and attaching it on the front wall can be more easily accomplished if done as if in layers: first, the front wall is taken into consideration, the necessary components are installed and then the dashboard is lowered on top of the speaker."

New solutions were also adopted for the GT cab's upholstery.







Image Hyundai Motorsport

#### Ott Tänak, Estonian rally driver

- 32 years old
- Married with two children
- Won his first World Rally Championship in 2019
- Won the Championship for Toyota Gazoo Racing, the Toyota factory team led by Tommi Mäkinen
- Now part of the Korean Hyundai team for two seasons

Ott Tänak, the winner of the World Rally Championship 2019, moved to the countryside to relax and escape the crowds his career inevitably attracts. His 15-hectare estate naturally needs constant maintenance. Doing everything without mechanical help was simply out of the question. A friend was quick to recommend an Avant loader – and it's a decision Ott has never regretted.

I I needed to find an immediate solution, which narrowed down the options. I contacted a local Avant dealer Sami Masinakeskus and told him I needed a 'tractor' today. Two hours later, a shiny new Avant 640 loader stood in my yard," Ott recalls.

#### A balancing act

Several Avant attachments, among them a bucket, a leveller, a lawn mower, trailer, mini digger, all-round grapple to name a few later joined Ott and his loader on the farm. What attachment he doesn't own, he can easily rent. To Ott, one of the best features of Avant is the large range of attachments available.

"Whether it's for washing your car, cutting down trees or mowing the lawn, Avant has the perfect tool," says Ott.

Competing in the World Rally Championships involves around 250 days of travel every year. When Ott is at home, a day rarely goes by without him using the Avant loader.

"Everything I do with the loader is useful, but it doesn't feel like work to me. It helps me relax and get my mind off things," he says.

#### Powerful and compact

The power-packed Avant 640 is the perfect machine for everyday tasks around the farm. Ott is happy to loan his

loader to friends and even helps them with their yard maintenance challenges.

"The loader is just right: it doesn't damage the lawn but is powerful enough to do everything that needs doing. We might need a bigger tractor from time to time, but it's no match for handling the day-to-day tasks that the Avant does," Ott notes.

#### Rally driving: really not that easy

"Ever since I was a little boy I've dreamt about becoming a rally driver. A huge amount of focused effort and work went into achieving that dream," Ott points out.

Rally driving has always set the pace of Ott's life. And the pressure has only risen with success. Preparing for a race and test driving require a lot of time, but it's all part of ensuring his and the team's success.

"It's always hectic. But I must say I enjoy it and success only pushes me forward," Ott emphasises.

It's not all down to hard work either. A lot of luck is involved in securing a place in a good team and at being in the right place at the right time.

"There is of course the driving part, but you need to do other things as well to get into the right team. I have been immensely lucky to do something I truly love for a living," says Ott with a smile on his face.

#### **NEW ATTACHMENTS**

#### Compatibility







#### **Asphalt grinder**

The strong and efficient asphalt grinder (also called cold planer) is an ideal attachment for asphalt road and pavement repairs and utility jobs. It grinds away the asphalt surface up to 80 mm depth, making repair of potholes, utility cuts, small overlays and edge repairs fast and easy. Different types of teeth are available for grinding asphalt or concrete.

Water spraying system is available as an option. It is mounted on top of the planer and is equipped with 120 l water tank and nozzle bar (same as on Avant collecting broom), membrane pump and strainer filter. Also, 3 pcs Avant 29 kg counterweights can be mounted on the water tank support frame to add weight when grinding hard asphalt etc. material.

If side shift is needed, the hydraulic side shift adapter A37235 is available as an option. It requires the optional second auxiliary hydraulics front outlet on the loader.



- 66393 Asphalt tooth (standard)
- 66392 Concrete tooth

Working width	300 mm
Total width	660 mm
Grinding depth	0-80 mm
No. of cutting teeth	29 pcs
Height	480 mm
Length	810 mm
Weight	245 kg
Product no.	A432621

(Technical data without water spraying system)



#### **OPTION: WATER SPRAYING SYSTEM**

- Mounts on top of the grinder
- Water tank 120 l + nozzle bar (same as on Avant 1500 mm collecting broom & bucket broom), membrane pump & strainer filter
- Max. 3 pcs Avant 29 kg counterweights A35957 can be mounted on the water tank support frame
- Product no. A37386

# Grain/flour dispenser bucket series 2

The large volume 500 l grain dispenser bucket is destined especially for bigger Avant loaders. It is an ideal attachment for distribution of flour, grain, crushed grain and other types of feed in granule form. Thanks to the strong  $\emptyset$ 210 mm hydraulic discharge screw, which can be rotated in both directions, the material can be distributed to the right or to the left side.

The adjustable side hatches with proper sealing guarantee that the material doesn't fall out unintentionally. The bucket can be tilted all the way down so that loading from ground level is as easy as with a normal bucket.

Two models available: with manual side hatch adjustment or with hydraulic side hatch adjustment.



Volume	500 l
Bucket width	1300 mm
Total width with rubber guide flaps	1650 mm
Height	960 mm
Length	940 mm
Weight	250 kg
Product no. manual side hatches	A435290
Product no. hydraulic side hatches	A439905





#### **NEW ATTACHMENTS**

#### Compatibility







#### **Backhoe 260**

The popular backhoe 260 – the strongest and largest backhoe model from Avant, also available with remote control - has been renewed. Its dimensions and standard specification are the same as before but attaching to the loader is now easier thanks to the new locking bolt type. It is integrated in the mounting bracket on the backhoe and equipped with a lever. By turning the lever, the pin locks into the boom of the loader; there are no detachable pins or cotters anymore. Also, the hydraulic pipes on the backhoe bucket cylinder are larger, which makes bucket movements smoother and digging more efficient.

A new option for the backhoe 260 is a hydraulic thumb grab, which allows lifting and handling of stones, tree stumps etc. larger objects that are hard to handle with the bucket only. The thumb grab mounts on the digging boom of the backhoe and is an alternative to the hydraulic bucket tilt adapter option. Both of them cannot be installed at the same time. The thumb grab can also be retrofitted to older 260 backhoes. This requires a mounting bracket kit which is welded on the boom of the backhoe.

Same updates have been made to the backhoe 260 with remote control, which now can also be mounted on Avant 800 series. Thanks to the proportionial control valve and joystick controls, operation of the remote-controlled backhoe is very smooth and exact, with unrestricted field of vision to the digging area.

The standard bucket on backhoe 260 is 400 mm wide. equipped with detachable teeth. In addition, there are buckets with different widths available, including two trapezoidal buckets for digging and cleaning of smaller





#### Contact your local dealer for more attachments and options



Max. digging depth	2600 mm
Width	1300 mm
Boom swing angle	170 °
Standard bucket	400 mm
Weight	420 kg
Product no., Backhoe 260 series 2	A37510
Product no., Backhoe 260 ser2 with remote control	A433851
Product no., Backhoe 260 ser2 with remote control, on 800 series	A440295

#### **OPTIONS:**

- Bucket 250 mm A414301
- Bucket 750 mm A35230
- Bucket 1000 mm A35383
- Bucket tilt adapter S30-150 with sideways tilt A35249 (not when thumb grab A435527)
- Trapezoidal bucket 650 mm A21638
- Trapezoidal bucket 912 mm A36374
- Thumb grab A435527 (not when bucket tilt adapter A35249)
- Mounting bracket kit for thumb grab retrofit A440402 (weld on backhoe digging boom)







#### **Power rake**

Power rake is a versatile attachment for soil grading, levelling, raking, and removing of debris. It can be used, for instance, for preparing seedbeds, cutting grades, grading dirt roads and gravel roads, and cleaning up and grading different types of sites.

Power rake mills the soil to max. 65 mm depth. The shaft is equipped with steel teeth. Driving direction is forward and the shaft rotates against the driving direction and moves soil, gravel, stones etc. forward. The removable side plates make soil moving and piling up of materials even more efficient. The rake is equipped with two adjustable support wheels and it can be turned to max. +/- 30 degrees angle.

Two models available: with manual or hydraulic turning.

Working width	1 480 mm
Total width	1 773 mm
Working depth max	max. 65 mm
Turning angle	+/- 30°
Length	1 210 mm
Height	670 mm
Weight	315 kg
Product no., manual turning	A434016
Product no., hydraulic turning	A439234

X	X	X	X	X	X	X	X						<b>(1)</b>												
220	225	225LP	3138	320S	320S+	420	423	520	523	528	530	R20	R28	R35	630	635	640	735	745	750	755i	760i	860i	e5	e6

#### **NEW ATTACHMENTS**

Compatibility





Timber grab HD



The heavy-duty timber grab is equipped with a stronger boom and hydraulic rotator and a larger grapple than the smaller models. It is intended especially for Avant 700 and 800 series. The arborist kit which mounts on the boom is also a standard feature. When cutting a tree, you can push the tree down with it if necessary, instead of pushing by hand. It is also possible to attach a rope on the bracket on the kit, which enables towing the logs by pulling them with the loader.

There are also two timber grab models which mount directly on the attachment coupling plate of the loader: one with hydraulic rotator and one without rotator. They are equipped with the same grapple as the A438973 HD grab with boom.

With the optional Opticontrol attachment control system mounted on the loader, it is easy and convenient to operate both the grapple opening/ closing and rotation of the grapple with the rocker switches on the Opticontrol switch pack.





Timber grab without rotator

#### **HD** timber grab with boom:

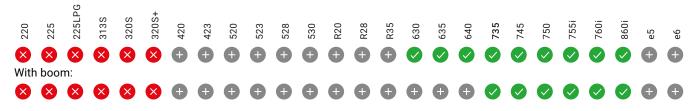
Rotation type	Hydraulic				
Grapple opening diameter	1 340 mm				
Grip area	0,2 m <sup>2</sup>				
Weight	280 kg				
Product no.	A438973				

#### **HD** timber grabs which mount on loader's quick attach plate:

The state of the s							
Rotation type	No rotation	Hydraulic					
Grapple opening diameter	1 340 mm	1 340 mm					
Grip area	0,2 m²	0,2 m²					
Weight	160 kg	210 kg					
Product no.	A436473	A437203					

The optional Opticontrol is recommended on the loader, with grabs with hydraulic rotator, for operating the grab opening/ closing and rotation (requires also 6 or 8 function joystick on the loader).







- CE marked "plug and play" mounting kit for hydraulic stone installation clamps
- Includes hydraulic rotator and electric control valve
- Operated with the Opticontrol attachment control system on Avant loader

For professional paving, a hydraulic stone installation clamp is a fast and easy way to lay paving stones. The installation clamp takes a whole layer of stones from the pallet, which then can be lifted directly to the area to be paved. Avant is an ideal machine for this job thanks to the articulated chassis which allows driving on the paved surfaces without damaging them, and thanks to the rigid articulation joint Avant loader is very stable also in paving jobs.

With the mounting kit it is easy to install on Avant loader practically any hydraulic stone installation clamp available from renowned manufacturers (Hunklinger, Optimas, Probst for example). The mounting kit is a complete "plug and play" kit which includes a lifting boom, a hydraulic rotator with continuous 360° rotation and electrically controlled hydraulics.

The stone installation clamp is mounted on the shaft of the mounting kit's hydraulic rotator and the clamp's hydraulic hoses are connected in the ports on the rotator. All functions of the stone installation clamp (rear/front grabbers, side grabbers, rotation) are operated with the

Opticontrol attachment control system on the loader. Because the mounting kit already includes the rotator and control valve, they are not needed in the stone installation clamp itself.

The mounting kit is CE marked and comes with operating and installing instructions. The optional Opticontrol is required on the loader.



#### **NEW ATTACHMENTS**

#### Compatibility



🗸 Very compatible 🔀 Compatible 🗴 Incompatible







#### **Wood chipper CH180**

The CH180 wood chipper is an efficient and modern disc chipper, equipped with 4 blades and intended for Avant 600-800 series. It takes in dry twigs, branches and tree tops up to 180 mm diameter and makes 12 mm long chips. Material is loaded manually in the infeed chute, but the chipper is equipped with hydraulic feeding rollers and Smart Feed system which monitors rotating speed of the cutting disc. If e.g. too much wood is loaded in the infeed chute and the speed of the disc slows down considerably, the rollers reverse a bit which prevents blocking and stopping of the chipper.

The adjustments of the Smart Feed system can also be programmed if necessary. The required electric current to Smart Feed is conducted either with the cable delivered with the chipper, or with the optional Opticontrol system on the loader.

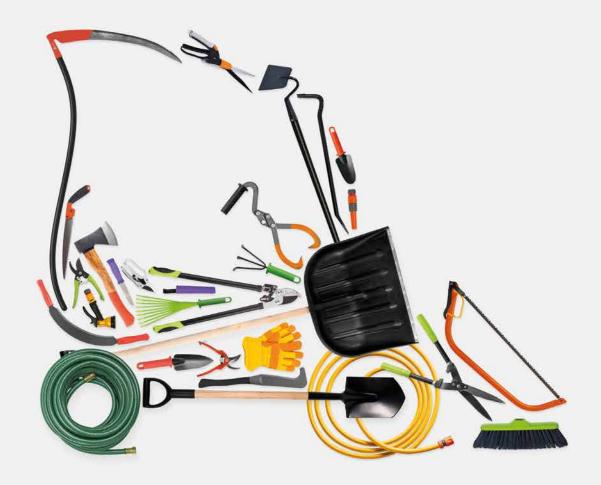
Discharge chute can be rotated manually 290° and throwing height can also be adjusted by hand. Thanks to the modular design maintenance is easy, and with the discharge chute turned into transport position the CH180 is a compact package.

CH180 complies with the latest EN 13525 standard for wood chippers. It meets the criteria of the standard regarding the distance between the infeed chute and blades (min. 1500 mm), and infeed chute's bottom must be at least 600 mm above the ground. The Smart Feed system also includes an electric emergency stop switch.

Chip length	12 mm				
Wood diameter max.	max. 180 mm				
Number of cutting blades	4 pcs				
Feeding system	hydraulic, Smart Feed				
Discharge chute rotation	manual, 290°				
Weight	380 kg				
Product no.	A441997				









One machine. Endless possibilities.

### Access platform expert Leguan Lifts celebrates 30 years new moves ahead



It has been 30 years since the story of Leguan Lifts, the subsidiary of Avant Tecno, began at the brink of the Finnish recession in 1990. Although times were rough, business started to get international as Leguan launched their first self-propelled access platform with outriggers, also known as the spider lift, in 1994. This innovative access platform concept - first of its kind - started the market for compact self-propelled machines.

eguan Lifts has been in co-operation with Avant from the very start, and later became part of this fast-growing Finnish group. Leguan Lifts has a strong position as the spider lift market leader in Finland, and lately their focus has been on expanding the footprint at the international markets. The most notable export markets today are the Nordics, Western and Central Europe and Australia.

#### New user-friendly products

During the recent years, Leguan Lifts has completely restructured their product selection. The newest products have a very simple user interface and many features unseen in the market. Therefore, many Leguan distributors – both long term and newer ones – have visited the factory this year to complete product and service training for the latest models.

Leguan Lifts has maintained decades-long relationships with many of the distributors. Some have started already in the 1990s. One example of them is Australian Monitor Lifts that has delivered more than 200 access platforms mostly to challenging all-terrain powerline maintenance work.

#### What next?

The most important future step for Leguan Lifts is the re-start of export activities in North America. More information about this will be published later this year.



Top left: The Liftexperten team from Norway was introduced to their first demo machine by Leguan's technical engineer.

Below left: Staff from Simeri, Simeri Estonia and Leguan Lifts met as the co-operation expanded.

*Top right*: Roots to Shoots knows how to cut down trees safely.

Below right: Norwegian Voss Liftutleigen's Leguan 190 in action.

# Machine rental service loves their Leguan 190

Today, Leguan access platforms are known for their user-friendly controls, great versatility and sturdy design. Norwegian machine rental service Voss Liftutleige is satisfied with their purchase of a Leguan 190.

"It is simply so efficient to use, as it is fast to setup, disassemble and versatile in use. A normal two-day job will be done in a day, if the customer chooses to use a Leguan, says CEO *Stian Overå*.

# Liftexperten sells Leguan platforms in Sweden

Norwegian Hybeko is one of Leguan's oldest distributors. Last year Hybeko's subsidiary Liftexperten AB took over the sales and marketing in Sweden with big growth goals set ahead.

"We have experienced great success with Genie since the beginning and have been looking for new high-quality brands to add to our product portfolio. Leguan Lifts already has a large market share in the Finnish and Norwegian markets, and we are confident to start sales development in the Swedish market together," said *Anders Åström*, Managing Director of Liftexperten AB.

#### New distributor: Simeri Estonia

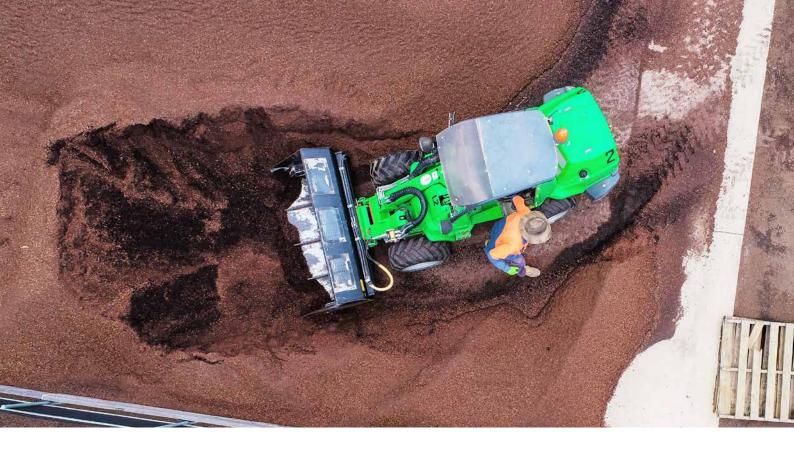
As a result of a successful after-sales partnership with Simeri Finland, Leguan Lifts decided to expand the co-operation and appointed their subsidiary, Simeri Estonia, to become the newest addition to the expanding group of Leguan distributors worldwide.

#### Trees down safely

Mike Hamilton's company Roots to Shoots offers tree surgeon services in the southwestern parts of the UK. Roots to Shoots is one of the most famous Leguan customers with thousands of followers on their social media channels. Leguan has enabled Mike to find business opportunities in places where there were none before. What is different about the Leguan compared to machines from other manufacturers is how sturdy it is.

"When you're up there and get a bit of wind, some of the other machines tend to move and swirl around a lot. That's not an issue with the Leguan. You feel very safe and secure in comparison to the other machines I've used."

Read the full interviews on the Leguan Lifts website: www.leguanlifts.com



# Multipurpose loader

# eases everyday work at an Australian nursery

hen Hervey Bay Nurseries, a commercial wholesale nursery in Queensland, started having problems with their FEL tractor, they knew it was time to look for a new machine. The loaders they looked at were big and clumsy, with noisy engines and closed cabins that were not ideal to ensure the safety of their staff on the ground or in high traffic areas.

"What we needed was a purpose-built machine ideal for nurseries. I had seen the Avant loader being used at nurseries in Victoria and decided to invite Avant Equipment to our site for a demo," Joe Archer, from Hervey Bay Nurseries, remembers. "When we saw the Avant loader at work in our own nursery, we knew it would be a great fit for our needs."

#### Perfect for the nursery's needs

Hervey Bay Nurseries decided that the Avant loader was the most versatile compact loader for their nursery needs. The impressive lifting height and tipping load of the telescopic boom meant they wouldn't need any ramps to drive up to the soil mixers. They could also use it for stacking pallets and loading trucks from either side.

With over 200 attachments the Avant loader can be used for many jobs around the nursery eliminating the need for multiple machines. "I realised that buying an Avant loader made financial sense for our business," says Joe. "We would get a quicker return on investment because of the versatility of the loader."

Joe happily lists the benefits that come with an Avant loader. "It is very easy to use and while it's small, it can move mountains. Because of its small size, we can use it for tight areas. And when mixing soil, the turnaround time is faster, which means less downtime when filling the mixers."

The compact size and articulated body of the Avant loader make tight turns easy for operators to navigate freely among the plants and trees without damaging them.

#### Versatile assistant in the garden

Low ground pressure, maneuverability, great visibility and huge lifting power make the Avant loader ideal for plant



Original 700's loaders and the new 860 at Hervey Bay.

and tree nurseries. The Avant loader and specialised attachments can handle virtually all work needed in a nursery. This multipurpose loader is a versatile option to keep plant or tree nurseries working efficiently. Whatever the task, the Avant loader will exceed expectations every time.

It was the knowledge that Avant loaders are manufactured to the highest standards in Finland, come fitted with a quality Kubota engine and have been represented by Avant Equipment in Australia for over 25 years, that gave Joe the confidence to purchase an Avant loader.

"The Avant loaders are great machines – that's why we bought a second one. We highly recommend these loaders for nurseries. We would love to buy the new Avant 800 series loader soon. Thanks to Avant Equipment for introducing us to this great loader. Our nursery wouldn't be as efficient as it is without this great machine!," Joe concludes.

This interview was done in January. After that, Hervey Bay has bought a new 860i loader. ●

Hervey Bay nurseries



#### **Avant Equipment Australia**

"Avant Equipment Australia is a family business started by brothers Steven and Paul Gage. It has 3 locations along the East Coast of Australia which service the whole country. The success of the Avant distribution in Australia, and a succession plan in place, has meant that the next generation of the Gage family are now selling and maintaining Avant loaders and attachments in Australia.

With over 25 years of industry expertise and excellent customer service the team at Avant Equipment can find the right solution for their customers when they need it. The business has been built on valuable partnerships with suppliers and customers – which is why the distribution is going from strength to strength.

The strength of their relationships with their customers often result in them being one of their biggest selling tools. Word of mouth testimonials often result in sales from new customers based on these testimonials.

We are very proud to be distributors of Avant Tecno and we look forward to many years of keeping our customers happy with Avant machines."

Robyn Barnes, Marketing Manager, Avant Equipment Pty Ltd.



# Powerhouse for tough spots



Looking back, we should have bought an Avant ten years ago. It's incredible how much easier it has made our work," says CEO *Markus Breithaupt*.

Breithaupt runs the company Kletterspezialisten (Climbing Experts) based in Michelstadt, Germany, which focuses on working at heights. Kletterspezialisten now have their own multi-purpose loader Avant 423, which they use for all kinds of woodwork such as transporting cutting waste or whole trees, cutting tree trunks and roots, and removing trees from tight spaces. Because the Avant 423 is less than one meter wide, it is easy to work with. Now it is possible to drive through narrow gates or to work in densely grown parks or forests. The multifunction machine is also agile in confined urban spaces.

#### Practical machine for tough spots

"Our Avant has a telescopic boom. When the pliers are filled with wood waste, I lift the telescopic boom up. As I drive to the container, the telescopic boom prevents the hanging branches from reaching under the front wheels, so the branches do not fall on the way to the container. The advantage is huge when you compare it to a normal pallet fork," says Markus Breithaupt.

The Avant 423 is equipped with a hydrostatic fourwheel drive and four hydraulic hub motors, so working in uneven and difficult terrain is not a problem. The anti-slip valve prevents the wheels from slipping, for example on swampy soil, which has proved to be an important feature in many situations.

#### Handy and comfortable powerhouse

Kletterspezialisten use their multifunctional loader with attachments like the heavy-duty log grab, pallet fork, 4 in 1 bucket, rotary broom and cone splitter. Changing the attachments is quick and easy thanks to Avant's quick coupling. The multi connector-system makes connecting hydraulic hoses convenient since you do not need to couple the hoses one by one. They can be easily removed and reconnected by just moving one lever. The Avant loader owned by Kletterspezialisten has a 185 bar additional hydraulics, which enables intensive work with the accessories. It also allows jerk-free lifting and lowering of the telescopic boom.

"Avant's designers have also thought about small things. For example, the seat heating is very comfortable during cold seasons," says Breithaupt.

#### Best off-road navigation - easy transport

Kletterspezialisten are often invited to help in special operations where strong technical expertise is needed. Since last January, their Avant 423 has made work easier.

"The functionality of our small green powerhouse in rough terrain is really amazing. It won't get stuck, and it can be moved with the telescopic boom upright, even on extreme gradients," Breithaupt says.

Because the multi-function loader is compact and relatively lightweight, it can be easily transported in a trailer from one site to another.

#### "The functionality of our small green powerhouse in rough terrain is really amazing."

Markus Breithaupt, Kletterspezialisten



#### Kletterspezialisten

- The certified company carries out tree care, logging, evaluations, and inspections mainly in the Odenwald region of Germany.
- Experts working at heights are called to help when trees are particularly difficult to care for or cut down. The company also receives assignments related to high radio masts from telecommunications companies.
- Climbing experts offer training courses such as chainsaw courses, rope climbing courses and occupational safety courses for high-altitude woodwork.



# A week without our Avant would be inconceivable

Tevona (Tehuizen Voor Nazorg)
VZW in Riemst, Belgium, recently
purchased a new Avant 423 For
its care farm. The machine has
since become a fixture for guests
at the center. We spoke with
Peter Nelissen, coordinator of the
garden and farm, at Tevona.

Tevona VZW supports adult persons with intellectual disability.

The organization consists of a residential center with a care farm that includes small livestock, greenhouses and meadows.

The vegetables and meat from the farm are intended for both our own kitchen and for private sale. A team of 13 guests and their supervisors handle the care farm's. daily operations," Nelissen explains.

#### How did you end up with Avant?

"There are diverse jobs that need to be done on the farm. In addition to caring for the animals, our guests help with weeding, clearing prunings and other maintenance activities. Until recently, we regularly used the machinery provided by a neighboring farmer and a local landscaper for the heavier work. One of them owned an Avant, which we had loaned several times. Avant's stability and maneuverability, two very important characteristics of farm machinery, impressed us.

We also tested several other machines, but in the end we were most happy with the Avant articulated loader. This is the only

machine that we are sure of would let us perform our work in the safest conditions. The knowledge that the risk of tipping is almost non-existent was truly reassuring."

"Another decisive argument was the loader's multifunctionality. We were also swayed by the fact that we could always rent accessories that we don't often use from the Avant Center nearby. We know that any accessory we might need would be available very quickly."

#### For which jobs do you use the Avant?

"We purchased a backhoe, a bucket and a pallet fork together with the machine. The backhoe and the bucket are mainly used in the vegetable garden. For example, we recently dug out the roots of all our asparagus plants. The job, which in the past took three days without a machine, took us less than a day to finish.

We also use the loader to clean out the stables: we drive the Avant into the stables, and the team fills the bucket. This helps us ensure that guests are involced with the farm's operations. We use the pallet fork to move things across the entire property. Our colleagues at the center soon learned that we had purchased a multifunction loader for the farm and they are increasingly calling on us to help them with our Avant."

#### What was it like before you had an Avant?

"Now that we have the Avant, we no longer have to ask the team to use wheelbarrows. We use the Avant to do so many different tasks. We even use it in our newspaper distribution. Employees of Tevona VZW go around the region to distribute newspapers several times a week. When the papers are delivered here, we take the Avant to quickly

and neatly collect them from the truck and put them away so they don't get wet in rainy weather.

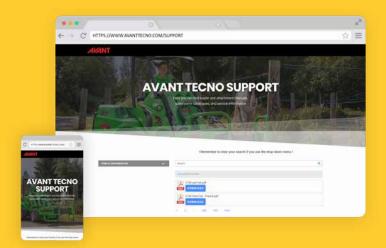
The Avant has also been great service at getting our parking surface back in shape after the winter! During the dry season, the Avant helps us ensure that our livestock and plants have water, even in the far corners of the farm. We simply fill a water barrel, put it on a pallet, and move that with the Avant to where water is needed."

#### Imagine not using the Avant for a week...

"That is almost unthinkable now! Although we've only had the Avant for a few months, it's something we can't live with. We can use it where it's needed, whether it's in the stables or in the greenhouses. The Avant is a fantastic and versatile machine! Our whole team loves it!"



#### Instructions for use now online



he Avant Support web site opened in March to serve end users and our dealers worldwide. End users will find manuals and spare parts books for loaders on these new pages, as well as manuals for attachments. Manuals are often needed when the driver is sitting in the loader's cabin, so the site is especially designed for our mobile users. The site's language is English but local language manuals and spare parts books can also be found there.

The support site can be found through our website or directly at **www.avanttecno.com/support**. •

#### Swiss Isliker stable

# appreciates small and practical loaders

The Isliker horse farm, which is also familiar from a TV show, uses a compact Avant loader that makes daily work much easier.



"Many people think that staying still means going backwards in life. But you don't always have to grow bigger to get better," Bruno Isliker states.

Pruno Isliker built his idyllic farm on the outskirts of Winterthur in Northern Switzerland in the 1960s. He started with standardbred and Freiberger horses, later also acquiring cows, sheep, hens, bees, and dogs. Today, 45 horses are galloping on the four-hectare pasture. Some of them are school horses and some are spending their retirement years on the farm. Horse riding lessons are organised for both adults and children, and older children can teach younger kids to work with the horses. Isliker's farm produces their animal feed self-sufficiently on an area of 35 hectares.

In the early 2000s, Bruno Isliker became an international celebrity from the European TV show called *Wetten*, *dass...?* (Wanna bet that...?). Bruno

visited the show several times with his trained and smart cow, Sybille. Sybille's specialty was cow jumping, and it could jump over obstacles – saddled and with a rider – like a talented horse. Other highlights of Bruno's versatile animal show included riding dogs and lying horses.

After many successful years of work, Bruno Isliker decided to rent his riding school and the agricultural area to *Andrea Helbling*, who is still running the farm, assisted by her sister *Manuela Helbling*. Both women have been working on the farm since their childhood, and they have also visited the TV shows with Bruno.

#### Handy and compact Avant pleases

When the Helbling sisters started running the farm, they realized they needed a loader that could fit into the narrow spaces of the stables. They immediately decided to acquire an Avant MultiTec, which could be used on the hayloft due to its low weight. The

easily maneuverable loader made working on the farm convenient and turned out to be a useful helper in yard construction as well.

In 2017, the sisters acquired a new Avant 528, which they still use every day. The machine lifts about 5,000 tons of straw and hay every year. It is also used for mucking out, transporting straw and silo bales, and doing construction work. Half of the farm work can be done with the loader of the right size.

"Small and practical, those words describe our Avant best. Ease of use appeals to us in particular. It is very easy to get in and out of the loader. The low operating costs per hour are also convincing," the siblings say.





# 423 – the perfect little helper for any task.

ONE MACHINE - OVER 200 ATTACHMENTS





### A Finnish high-end product for free time and for professionals



#### Global market leader

- Export over 80% to 70 countries
- 70 000 Avant's worldwide
- Export companies in Germany, USA and UK

#### Avant - build your own

- 8 model series 20-57 hp
- Over 200 attachments
- 50 options for a basic model

#### **Eco-friendly**

- Full-electric loaders e5 and e6
- Close to 100% recyclable
- All model series fill the strict Stage 5 emission regulations



**Avant loaders and attachments** 

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