



SERRA - offers unique engineering



Mobile and Stationary Sawmill Technology

*For more information, contact:*

**Timber Tools**

**1-800-350-8176**

**sales@timbertools.com**

## TRADITION AND INNOVATION

Surrounded by forest and situated at the edge of the Alps in southern Germany are the company headquarters of SERRA. Here a staff of 33 now under the leadership of Mr. Johann Fritz, guarantee expert customer service. A commitment to its own tradition is evident in the new buildings: environmentally and aesthetically correct the wooden structures have been honoured with awards.



### When Dreams come true....

... then you talk of SERRA, a success story that began in 1987. At that time, Hans Fritz, trained in agriculture and forestry, was working his farm in Canada. While he was there, he visited an Agricultural Exhibition in Toronto, Canada, where he looked at a portable band sawmill. The innovative expert became convinced of the possibility of a mobile sawmill, which he could haul straight to the logs and then use it for processing the lumber on site. He also dreamt about sawmilling logs from his own, seven hectare forest by Lake Chiemsee in Bavaria. In the same year, this practical man presented his new achievement to the „Zentral Landwirtschaftsfest“ (Central Agricultural Show) (Farm Show) in Munich. It was the Premiere Exposition in Germany and accordingly, the interest was great. Two years of expert development ensued: Precision, longevity, and performance were the criteria by which the engineers designed and fabricated a sawmill for the German market. An external certified technical testing was successfully accomplished for the first series of three mobile sawmills in 1989. It was the hour of birth for SERRA (lat.: saw) Maschinenbau GmbH on January 1, 1990.

### When the Sawmill Goes to the Tree ...

... the advantages of SERRA, i.e. sawmilling mobility on four wheels for any place at any time, where the logs can be processed, have become known to more and more owners of forest stands, tradesmen, hobby woodworkers, and sawmill operators. Fulfilling each customer's demand, whether it be boards, beams or slats, different sizes and price classifications, quite a few people have discovered a lucrative market niche with SERRA. Worldwide, over 1250 mobile sawmills in over 70 countries speak for themselves. In Germany itself SERRA has meanwhile sold more than 500 band sawmills and, thus, become the leading manufacturer.

### When ENGINEERING and SERVICE are printed in Capital Letters ...



... each sawmill is individually constructed with the most modern 3D CAD programme  
... we guarantee the shortest possible delivery time without compromising quality  
... your spare parts needs are looked after by our fast and courteous service



... you can personally test all sawmill models in our presentation hall by receiving expert instructions  
... your sawmill will be unique. Each model is constructed to your individual price and performance demands  
... our experienced professionals will personally instruct you in all the operating and maintenance aspects of the sawmill



... you can request the services of our mobile customer service department at any time  
... we offer competent consultation via our own hotline  
... you receive tips, stimulating ideas and exchanges of knowledge from practical experience, in our free of charge magazine for our customers

# SATISFIED CUSTOMERS

## When Experience has Tradition...

... then you are a member of the successful family of Serrians. Each day our customers throughout the world are convinced of the high standard of the "Made in Germany" technology. Whether your new company branches out, you are starting your own business or developing a serious hobby. Our Customers know performance is worth more than price.



... you exchange experiences with others. A regularly scheduled meeting for all SERRA members takes place once a year, e. g. in the factory at SERRA.



... then we celebrate our sawmills and we are happy for getting lots of new potential customers at our open day factory or during the „Rimstinger Holztag“ a little wood machinery exhibition that is held every third year.



## When Technology pays...



Since 1992 my son and I have worked together doing contract work. We cut construction wood with lengths of up to 12 m or more. I have previously owned two SERRA sawmills and am now the proud owner of a Bavaria SL130i

Bernhard und Daniel Schober, Switzerland  
www.schobers-mobiles-saegewerk.ch



Since 2002 we have not only been working with the SERRA sawmills we also represent them in the Ukraine. With our 3 SERRA sawmills we cut up to 3.500 cbm per month, also working a night shift. We supply all the door manufacturers and other construction markets, as well as exporting. Together with our drying kilns and moulding department we have 107 employees.

Benkowsky Brothers, www.lira-ukraine.com.ua



30.000 hectares of land mostly covered by forest belong to the Vatopedi monastery. Because the need for wood is increasing the monks started to search for a mill with a high productivity. There are 5 SERRA sawmills working on the Athos Mountain. Shortly they will be receiving some more SERRA sawmills.

Lazarus Politis, Greece



As a small child I dreamed of a mobile sawmill. As soon as I was 18 I bought my first SERRA sawmill a Filius and with this mill I cut over 1000 cbm in two years. Then I bought a Montana for doing contract cutting and two years later bought the Bavaria SL130i. When dreams come true then you can make a living out of them.

Nico Döllinger, Germany, www.nd-holz.de



In winter the frozen larch wood is very difficult to cut. After doing a lot of research we decided to buy a Serra sawmill because high productivity and cutting quality is important to us. We have now purchased 3 Bavaria SL 130i's and have found them to be an ideal machine for our business.

Company LP ANGARA, Russia.



A customer asked me to cut their dry and frozen oak with a 1,30 m diameter. My Bavaria made it easy and my customer was impressed. The saws ability on challenging jobs like this reinforces my trust in being Serra's representative for Norway and Sweden

Arild Oygarden, Norway. www.serranorge.no

## When the complicated is made simple ...



„We have specialized in processing historic oaks woods for more than 25 years. We always hired a contract miller with his SERRA for our saw works. In 2011 we had a large order and decided to buy a machine ourselves. Thanks to the ALPINA KE 90 we can now offer our customers a high-quality service.“

Thomas Knapp, Historische Baustoffe (Historic building materials) GmbH, www.knapp-online.de



The worlds most famous and traditional pencil manufacturer Faber Castell use a Montana ME90 in Sumatra to produce boards for pencil production. In earlier days they used more than one vertical bandsaw. "Using the Montana we now have a bigger output and savings".

Liau Soewandi General Manager Company IBS Faber Castell, Sumatra



During my visit to Angola besides training one of our customers to use the SERRA mill, I was able to develop several wood houses built with modules. We built them with wood from the region and the people were amazed at how we could build two small houses in one day with wood cut by a SERRA. The German society for technical teamwork and the German embassy were really impressed.

Hans Fritz, General Manager SERRA Maschinenbau



„We produce lumber for the packaging industry here in Tuticorin. In the past it took 10 men to produce 5 cbm in one shift. In 2010 we acquired an AFRICA SL 130s. We now produce 20 cbm with 4 men and are looking to increase our output even more. But the best part is that our quality is now on such a high level (+/- 0.5 mm) that everybody wants to buy our wood.“

Jitendra Patel, Fa. Shinago, India



„I specialize in cutting spruce and larch wood from Siberia for making window and door products. I also cut timber for general construction work in this area. We operate several SERRA sawmills at our premises“.

Janos Kantor, Budakeszi, Hungary



Farmer Martyn Jones from Wales used a narrow band sawmill from a different manufacturer. His son who just finished his education wanted to join the family business, but not with this technology. Thanks to the purchase of his new BAVARIA SE 135 the cuttings business is now flourishing. Father and son work well together and are delighted with the increased productivity.

Martyn Jones, Wales, United Kingdom



I work my sawmill in a two shift operation per day. Monthly I produce between 750 and 850 cbm of construction wood. I like to be a part of the SERRA Team. Recently I built a wood house and from the outside it looks exactly like SERRA'S headquarters in Germany. I did cut all the wood for this house with my SERRA

Istvan Csillag, Romania, www.serra.ro



Estoraque, Tauari and Chihuahua are the names of some hardwoods with a weight of 1.300 kg/m³ and are being cut with our Serra Africa SL160s sawmill. The advantage of our sawmill is that we can place it wherever the logs are being harvested. The wood is sourced by selective felling from managed forests.

Herbert Frey, Peru



In the last 20 years I have sawn lots of woods with different sawmills from the company SERRA. You can always rely on them. They are easy to operate, very stable and strong built. With my Bavaria SL 130i I can cut all the logs I get. I am proud of the fact that I have trained more than 100 sawmillers to operate SERRA Sawmills in France.

Philippe Goepfert, France, www.serra-france.com

# ALPINA KE 90 + ALPINA KB 90

The professional sawmill for an optimal price

— The perfect model for starting to sawmill with wide sawblade technology. A sawmill with convincing accessories possibilities and because of its standard deluxe computerized positioning system, easy to use. Also available with manual log handling system. With this manual log handling system, you can not only fix the log and level it, you can also pull the beams down exactly as with the hydraulic system. This model is available with 18,5 kW electric main engine as well as 25 kW fuel main engine. Steples powerful electric engine for horizontal displacement of the sawhead, electric engine with two speeds for lifting and sinking the sawhead and precutter. At the sawhead we do not make compromises: Automatic sawblade oiling system, manual sawblade tensioning and manual sawblade guidance. All this for a sensational price.

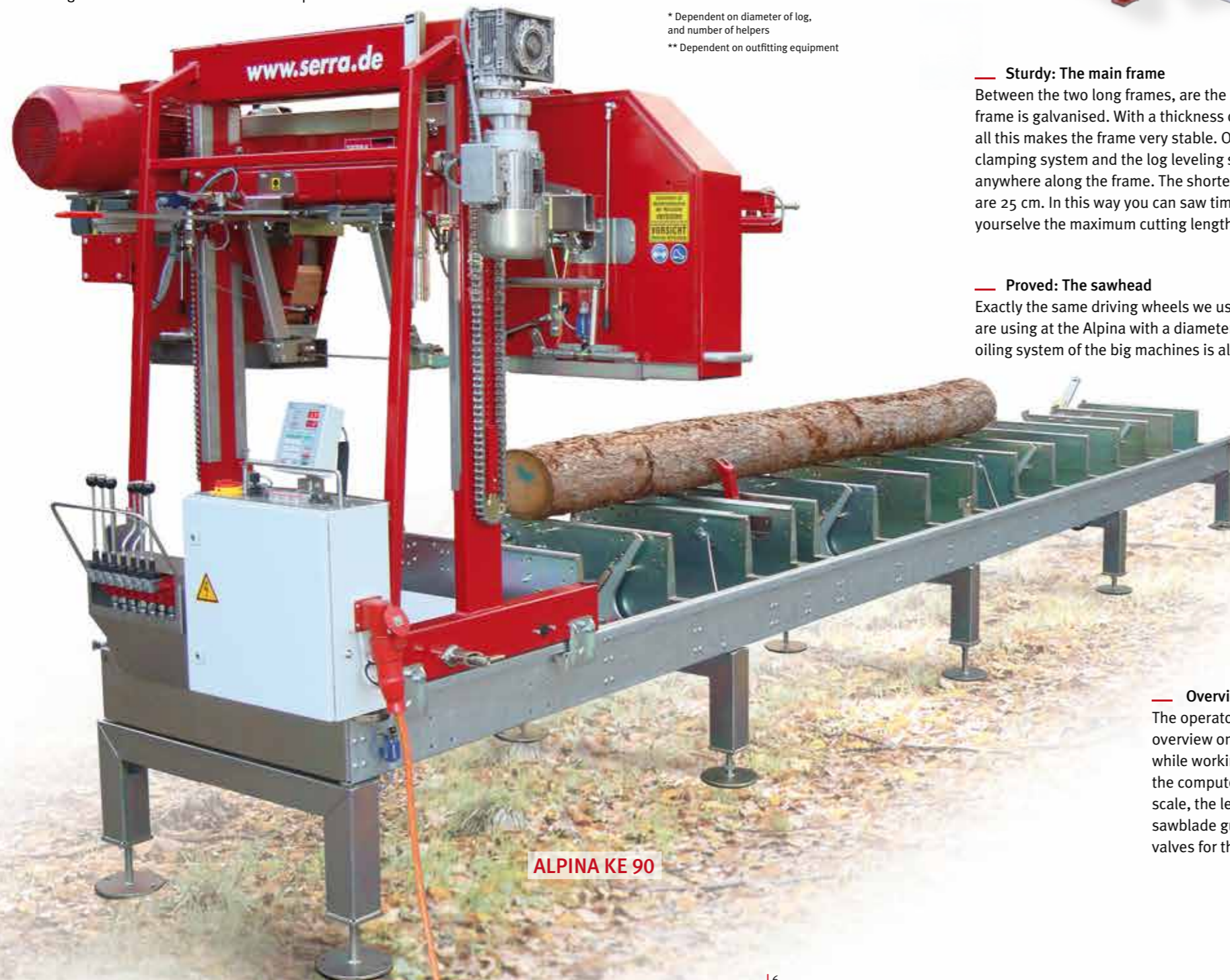
## Technical Data

Diameter	90 x 90 cm
Cutting length	6,7 m (standard version) extendable 2,5 m frame extension
Drive	KE 18,5 kW / KB 26 kW (35HP)
Output	7,600 Bft. (18 M <sup>3</sup> )/8 hours*
Weight	1,2 up to 2,5 t **

\* Dependent on diameter of log, and number of helpers  
\*\* Dependent on outfitting equipment



ALPINA KB 90



ALPINA KE 90

## — Sturdy: The main frame

Between the two long frames, are the screwed log supporters. Whole main frame is galvanised. With a thickness of 5 mm steel and double welded and all this makes the frame very stable. On this frame are the squaring arms, the clamping system and the log leveling system. The log supporters can be placed anywhere along the frame. The shortest distance between two log supporters are 25 cm. In this way you can saw timber from 0,6 m up. You can decide yourself the maximum cutting length, but the standard length is 9,2 m.



## — Proved: The sawhead

Exactly the same driving wheels we use for the little Montana sawmills, we are using at the Alpina with a diameter of 700 mm. The proved cleaning and oiling system of the big machines is also used in the Alpina as well as the easy to adjust sawblade guidance. The central tensioning system is upwards displaced granting you 39 cm of space above the blade. The precutter adapts automatically to the log diameter and to the form of the log. The circular saw blade of it, cleans the dirt from the log, increasing the life expectancy of the saw blade.



## — Overview: The cockpit

The operator of the sawmill has a good overview on all the functions of the sawmill while working: The basic operation elements, the computerized positioning system, the scale, the lever for the squaring arms, precutter, sawblade guidance as well as the hydraulic valves for the log handling.



# MONTANA ME 90 + MONTANA MD 90

The professional alternative for a special price

Germany's most sold sawmill with wide band sawblade technology. Two possibilities of power source: Diesel engine (MD) or electric engine (ME). High protection against corrosion because of its hot dipped galvanized frame. Fantastic cutting accuracy, angled sawhead. The lightest wide band technology sawmill in the German market. A professional mill at an excellent price.

## Technical Data

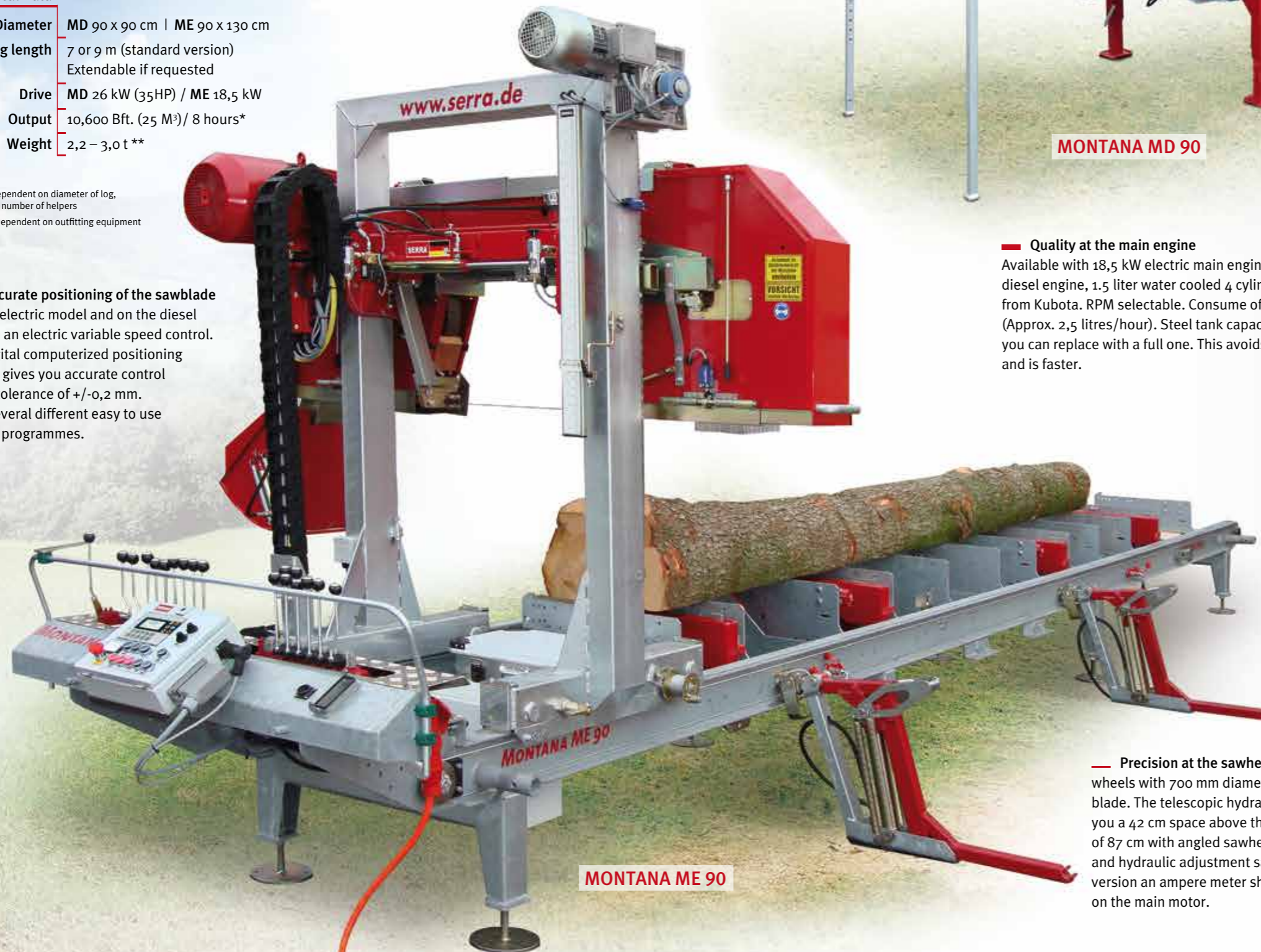
Diameter	MD 90 x 90 cm   ME 90 x 130 cm
Cutting length	7 or 9 m (standard version) Extendable if requested
Drive	MD 26 kW (35HP) / ME 18,5 kW
Output	10,600 Bft. (25 M³) / 8 hours*
Weight	2,2 – 3,0 t **

\* Dependent on diameter of log, and number of helpers

\*\* Dependent on outfitting equipment

## Accurate positioning of the sawblade

On the electric model and on the diesel version an electric variable speed control. Our digital computerized positioning system gives you accurate control with a tolerance of +/-0,2 mm. With several different easy to use cutting programmes.



MONTANA ME 90



MONTANA MD 90

## Quality at the main engine

Available with 18,5 kW electric main engine or 26,2 kW (35PS) diesel engine, 1,5 liter water cooled 4 cylinder diesel engine from Kubota. RPM selectable. Consume of diesel very low (Approx. 2,5 litres/hour). Steel tank capacity 20 litres that you can replace with a full one. This avoids contamination and is faster.



## Main frame with a long lasting life

Because of its hot dipped galvanized frame the mill maintains its value longer than any other in the market. In addition to this the galvanized frame avoids any staining while cutting oak and larch. The stability is granted because of two long double T beams along the frame. The log supporters have all the same holes, making it possible to add other components later on or while manufacturing the mill. The distance between the log supporters is approximately 60 cm. The boards will not bend or hang down between the supporters



**Precision at the sawhead** Heavy strong cast iron driving wheels with 700 mm diameter gives you easy running of the blade. The telescopic hydraulic blade tensioning system gives you a 42 cm space above the sawblade with a first cut height of 87 cm with angled sawhead and automatic sawblade oiling and hydraulic adjustment sawblade guidance. On the electric version an ampere meter shows you the power consumption on the main motor.



# MONTANA ME 110 + MONTANA MD 110

The professional alternative for a special price

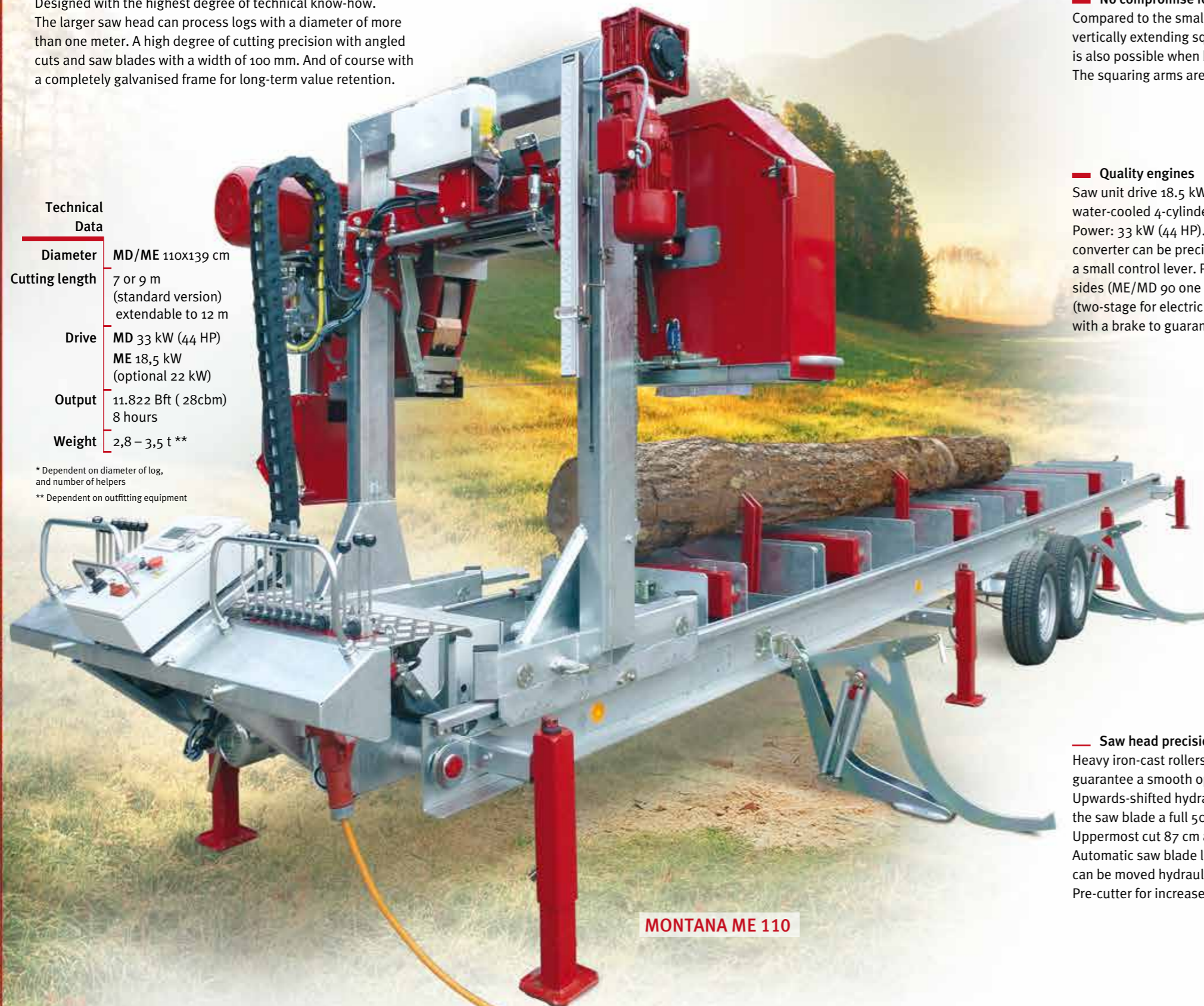
— The big sister of the successful Montana ME 90 and MD 90. Designed with the highest degree of technical know-how. The larger saw head can process logs with a diameter of more than one meter. A high degree of cutting precision with angled cuts and saw blades with a width of 100 mm. And of course with a completely galvanised frame for long-term value retention.

## Technical Data

Diameter	MD/ME 110x139 cm
Cutting length	7 or 9 m (standard version) extendable to 12 m
Drive	MD 33 kW (44 HP) ME 18,5 kW (optional 22 kW)
Output	11.822 Bft ( 28cbm) 8 hours
Weight	2,8 – 3,5 t **

\* Dependent on diameter of log, and number of helpers

\*\* Dependent on outfitting equipment



MONTANA ME 110

## — No compromise for the squaring arms

Compared to the smaller Montana, the big sister has vertically extending squaring arms. Extending and retracting is also possible when branches stick out from the log. The squaring arms are easier to lower when cutting lathes.



## — Quality engines

Saw unit drive 18.5 kW, by request 22 kW electric or 1.5 litres, water-cooled 4-cylinder diesel engine with turbo from Kubota. Power: 33 kW (44 HP). The feed motor with frequency converter can be precisely and continuously controlled with a small control lever. Power train with feed cables on both sides (ME/MD 90 one side only). The height adjusting motor (two-stage for electric version, variable for Diesel) is equipped with a brake to guarantee 100% accurate cuttings.



## — One of a kind base frame concept

Small gaps between log supports, which means boards will not sag when cutting and short logs from 60 cm can be inserted. All supports have the same hole pattern for the installation of hydraulic components, meaning they can be easily moved and retrofitted. The entire frame is galvanized. The zinc coat prevents blue coloration of acidic wood types and also provides rust protection.



## — Saw head precision

Heavy iron-cast rollers with 800 mm diameters guarantee a smooth operation. Angled cut. Upwards-shifted hydraulic blade tension provides the saw blade a full 50 cm of space for the cuttings. Uppermost cut 87 cm above the saw bed. Automatic saw blade lubrication. Blade guide can be moved hydraulically as a standard feature. Pre-cutter for increased saw blade service life.



# BAVARIA SE 135

The sawmill for professionals

— Since 1997 the serie Bavaria has been world wide successfully cutting all kinds of woods. The actual third generation of this sawmill counts with all kinds of functions and its main characteristic is easy maintenance. An unique main frame concept grants you maximum stability and a minimum weight. As on airplanes, the main frame of this sawmill has a minimum of welding and the screwed log supports are easy to change according to the changing requirements of your business. Of course the main frame is galvanized for maintaining its value along the time. The Bavaria fulfills the needs of the norwegian sawmiller as well as the industrial sawmilling plant in Dubai and the sawmillers in Rusia that work 3 shifts a day for a total of 24 hours a day. A multifunctional sawmill without any compromise.

## Technical Data

<b>Diameter</b>	135 x 154 cm
<b>Cutting length</b>	7 or 9 m (standard version) extendable if requested
<b>Drive</b>	Electric 22 kW (32 kW option)
<b>Output</b>	14.000 Bft. (33M³)* 8 hours
<b>Weight</b>	3,5 t **

\*Dependent on diameter of log, and number of helpers  
\*\* Dependent on outfitting equipment



## — Unique main frame concept

Special manufactured side beams several times folded grant you extreme stability with minimum weight. Integrated in the frame is the protected surface where the sawhead runs on. Between the two side beams, there are the screwed log supporters which are also several times folded. On the top they are made out of stainless steel and rounded to avoid any remaining bark on top of it. The top out of stainless steel avoids staining while cutting oak or larch.



## — Professional sawblade tensioning

Its upwards displaced tensioning system grants you 50 cm of space above the sawblade for the lumber. Tensioning distance of up to 300mm with our telescopic technology allows you to use different sawblade lengths according to the diameter of logs you are cutting. Thinner logs can be cut with a shorter distance between the wheels having excellent results. Once the wheels are driven together you may drive on the road without a special permit. The sawblade cover opens and closes hydraulically. This model together with the Bavaria SL and Africa XE are the only sawmills in the market designed for big logs that can be used for smaller logs as well.



## — Easy sawblade handling

Changing a saw blade is done in one minute only. A very solid hydraulic adjustable sawblade guidance. Easy adjustable pressure guidance (optional), extremely long lasting and easy to change and with a very low replacement value. A very precise oiling system with two magnetic valves and a 24 litre tank with level indicator. Different watering systems for resinous woods. A well developed cooper scrapers system easy to maintain, to change and also with a lubricating function.



## — Comfortable operation:

The different hydraulic components for the material handling are controlled by the levers of the hydraulic valves. The sawmilling itself can be controlled by a joystick and a PLC computerized networks. A totally new removable 10,4" touchscreen, different cutting programs, automatic sawmilling operation, squaring arm surveillance, automatic emptying of the sawdust collector, wood volume calculator, hours of operation counter, calculator, etc. Positioning tolerance of +/- 0,1 mm. AVS (Automatic Variator speed System) combined with a new sawblade surveillance system, grants you the ideal cutting speed. Before the sawblade starts waving, the joystick will start up alarm by vibrating. The new return system of the sawhead is controlled by a foot pedal and includes a new automatic soft stop function.



# AFRICA XE 135 + AFRICA XE 160

The biggest sawmills for hardwood

— The Africa series are robustly built sawmills for stationary use using 20mm steel together with 2 double T beams to support the heaviest of logs. The use of stainless steel in the frame avoids the staining when cutting wood like oak and larch. This mill has been proved popular worldwide for cutting large diameter hardwood. The stationary sawmills of SERRA do not require any complicated foundation and they are easy to install.

## — Powerful hydraulic for log handling

The main frame can be equipped with all the hydraulic accessories for safe log handling this is also possible with the biggest and heaviest logs. Loading, turning, displacing and clamping the logs is possible. Unloading arms in the mill and the log clamp turners allow you to take the cut boards off onto unloading arms besides the mill. From then on by using a conveyor system, you can transfer the boards to a multiple resaw or edger. This model has been proved ideal for industrial stationary sawmilling plants. Please contact our SERRA projects department (Page 24/25).

## — Ease of use

In addition to the standard solution (similar to Montana), we also offer a V-Cockpit with comfortable leather seat. By request, the latter can be moved vertically (+ 100 cm) and horizontally (+/- 50 cm) to ensure visibility even for the largest diameter logs. We call this version the „MP Cockpit“ (Movable Platform cockpit) (large picture on the left). All functions and monitors are easily accessible in the V-Cockpit.



## Technical Data

Diameter	XE 135 135x154 cm   XE 160 160x198 cm
Cutting length	7m. (standard version) Extendable if requested
Drive	Electric 22 kW (Option 32 kW or 45 kW)
Output	15.200 Bft. (36 M³) / 8 hours*
Weight	from 5,6 t **

\*Dependent on diameter of log, and number of helpers  
\*\* Dependent on outfitting equipment



AFRICA XE 160

## — The biggest sawmill for hardwood.

The blade tensioning is displaced upwards for more than 70 cm (XE 135: 50 cm) to avoid the need of taking off every board before you start cutting the next one. Tensioning distance of up to 300 mm allows you to use shorter blades for smaller logs. Saw blade covers opens and closes hydraulically. Wheel diameter 100 cm on the XE 160, 80 cm on the XE 135. 150 mm saw blade width on the XE 160, 120 mm width on the XE 135. High cutting performance. Angled saw head!



## — Precutter

The precutter is designed to grip very securely in the lower log half during block cutting. When changing saw blades, it is folded upwards with help of air pressure.





# DUETT AND QUARTETT

## Ideal complementary machines for mobile or stationary use

As a complement for your sawmill we offer an edger with two (Duett) or four (Quartett) circular blades. Simple but strongly built. Available as a mobile or stationary machine. All fabrications are constructed from aluminium or zinc coated steel which greatly reduces the risk of stainings and increases the working life. The mobile version is easy to set up and use. Contractors will often rent out the Duett to their customers so they can edge the wood themselves.



### Working description

As a complement for your sawmill we offer an edger with two (Duett) or four (Quartett) circular blades. Simple but strongly built. Available as a mobile or stationary machine. All fabrications are constructed from aluminium or zinc coated steel which greatly reduces the risk of stainings and increases the working life. The mobile version is easy to set up and use. Contractors will often rent out the Duett to their customers so they can edge the boards themselves.

### Technical Data

Board thickness	up to 2" (50 mm)
Width of board	Duett 2" to 16" (50 to 400 mm)   Quartett 2" to 13,6" – 16" (50 to 340 – 400 mm)
Pass through width	39" (1 m)
Length of deck Infeed	16 ft. (5 m) / Outfeed - 10 ft. (3.20 m)
Length of board	unlimited
Weight	290 kg, 410 kg. with axle assy
Performance	4 Electric motors (2 x 5 KW, 0.25 KW, 0.025 KW)
Plug	32 Ampere CEE plug



The conveyer system consists of two air-filled rubber grip rollers. Instead of metal rollers, they guarantee the tightest grip, even with boards that are iced up or coated with sawdust. These rubber rollers prevent the production of crooked boards, and are exceptionally light as well.



Check strips with integrated splinter protection (see picture), set of automatic shut off systems and covers make this machine one of the safest on the market.



The width adjustments are done through an electric engine that displaces one circular blade (Duett) or two circular blades (Quartett). The distance between both sides is indicated through a scale. A digital display or setworks are also available on request.

If you want we can manufacture this machine with a 3 point linkage transport system to be used on a tractor or unimog.



Both models the Duett and Quartett are available as mobile or stationary versions. They are built with high quality components as for example: Siemens, Telemecanique, Lapp cable and Iguss.

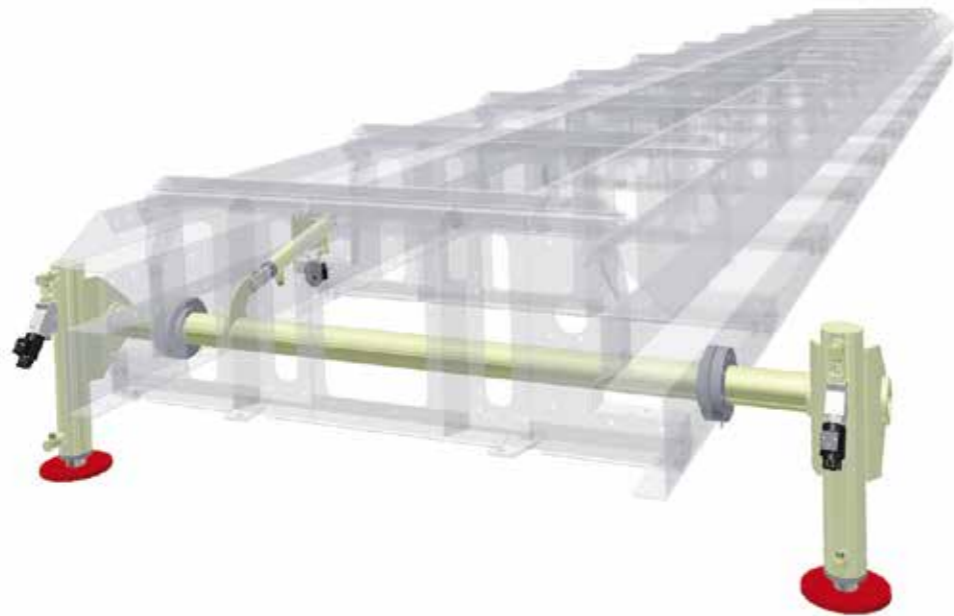


# HYDRAULIC EQUIPMENT MODULES AND OPTIONS

For each of our four big models there is a complete line of hydraulic accessories available. You have the choice and of course we can assist you in what components you need also in what position on the frame they can be mounted. In doing this we make it more user friendly which in turn will increase your productivity. At the Montana and Bavaria SE 135 you can choose different hydraulic packages. The following description is based on the working steps procedure.

## — Hydraulic support legs

At our professional sawmill Bavaria SE 135, the working place is continuously changing. To prepare the mill with the standard legs (manual) takes approximately 20 min. Normally there are 4 pair of manual legs. The hydraulic legs offer you a quick and efficient levelling system that reduces the setting up of the mill by approximately 75%. (They are only available in pairs)

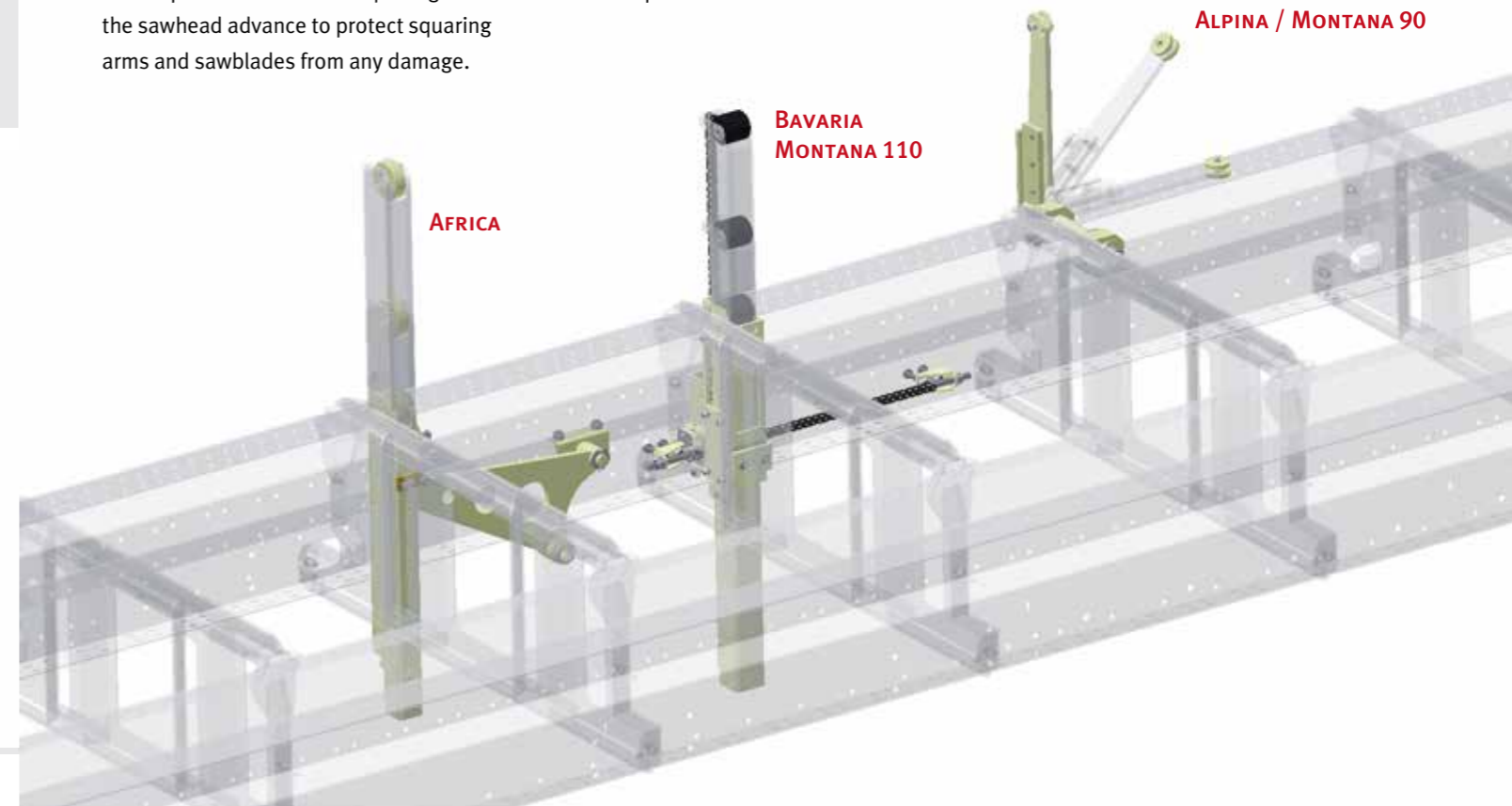


— The log lifters as their name indicates lift the log up to the sawing table. The model Alpina, Montana and Bavaria need at least 2 log lifters. Up to 4 log lifters are possible. Lift capacity for the Alpina and the Montana log lifters is 0,8 tons each one and 1,2 tons for each log lifter on the Bavaria. All four models, the log lifters are positionable so they can be placed according to the length of each log. On the Bavaria and the big Montana they are sliding on rails, on the Alpina and little Montana they can be mounted on several adjustable rackets. In order to transport the mill, you have to lift and fold up the log lifters or dismount them, depending on the model. On the Africa series, the log lifter is one piece unit but with more arms so there is no need to move them depending on log length. The standard lifting power is 6 tons and if required 10 tons.



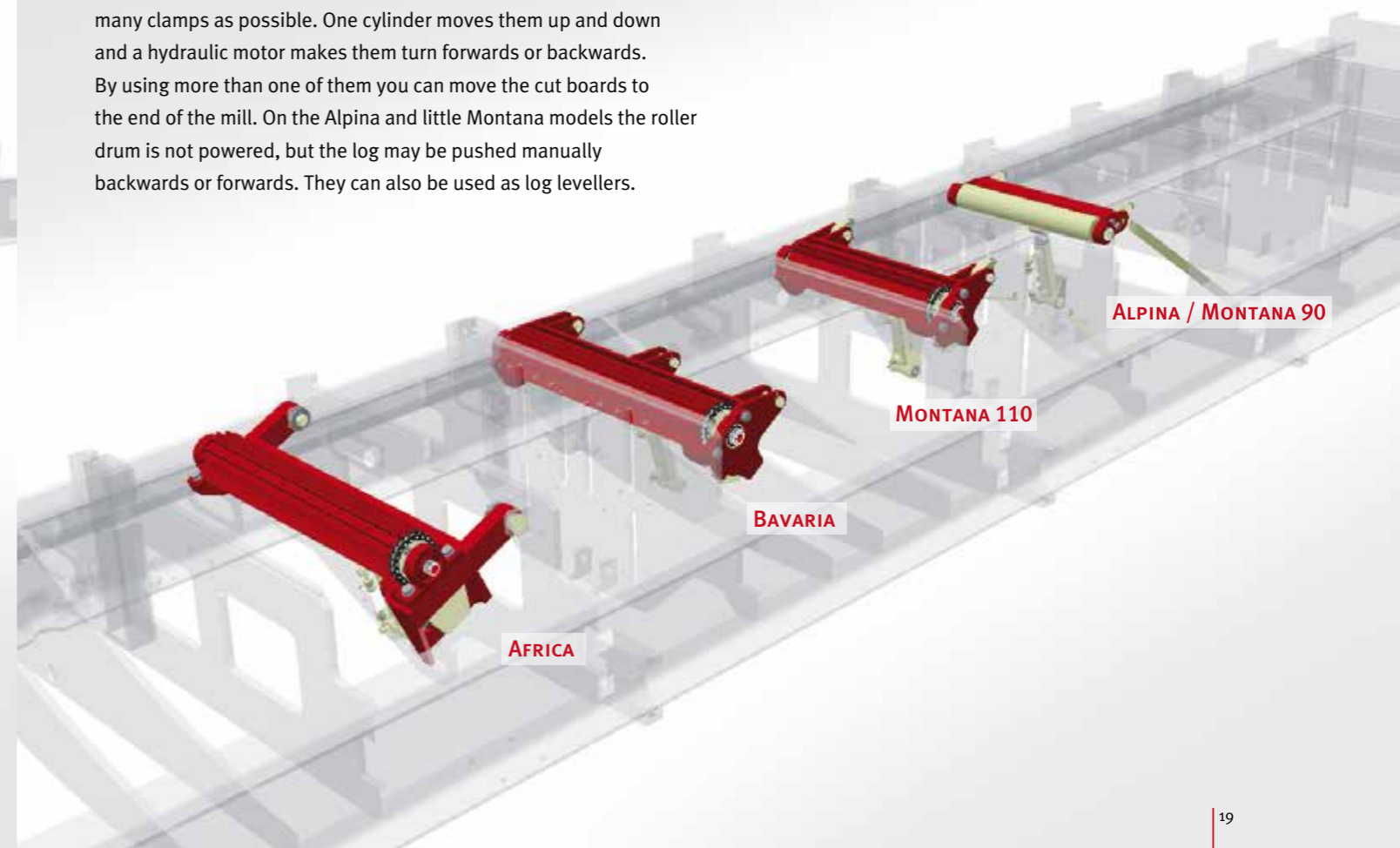
## — The squaring arms

They prevent the log from rolling off when loading and turning and they are also required for right angled positioning of the log. They can be adjusted to maintain their accuracy. The small wheel at the top helps to turn the bigger logs. On the Alpina and little Montana models they are not telescopic they just fold away. On all the other models they are telescopic and if ordered a squaring arms surveillance stops the sawhead advance to protect squaring arms and sawblades from any damage.



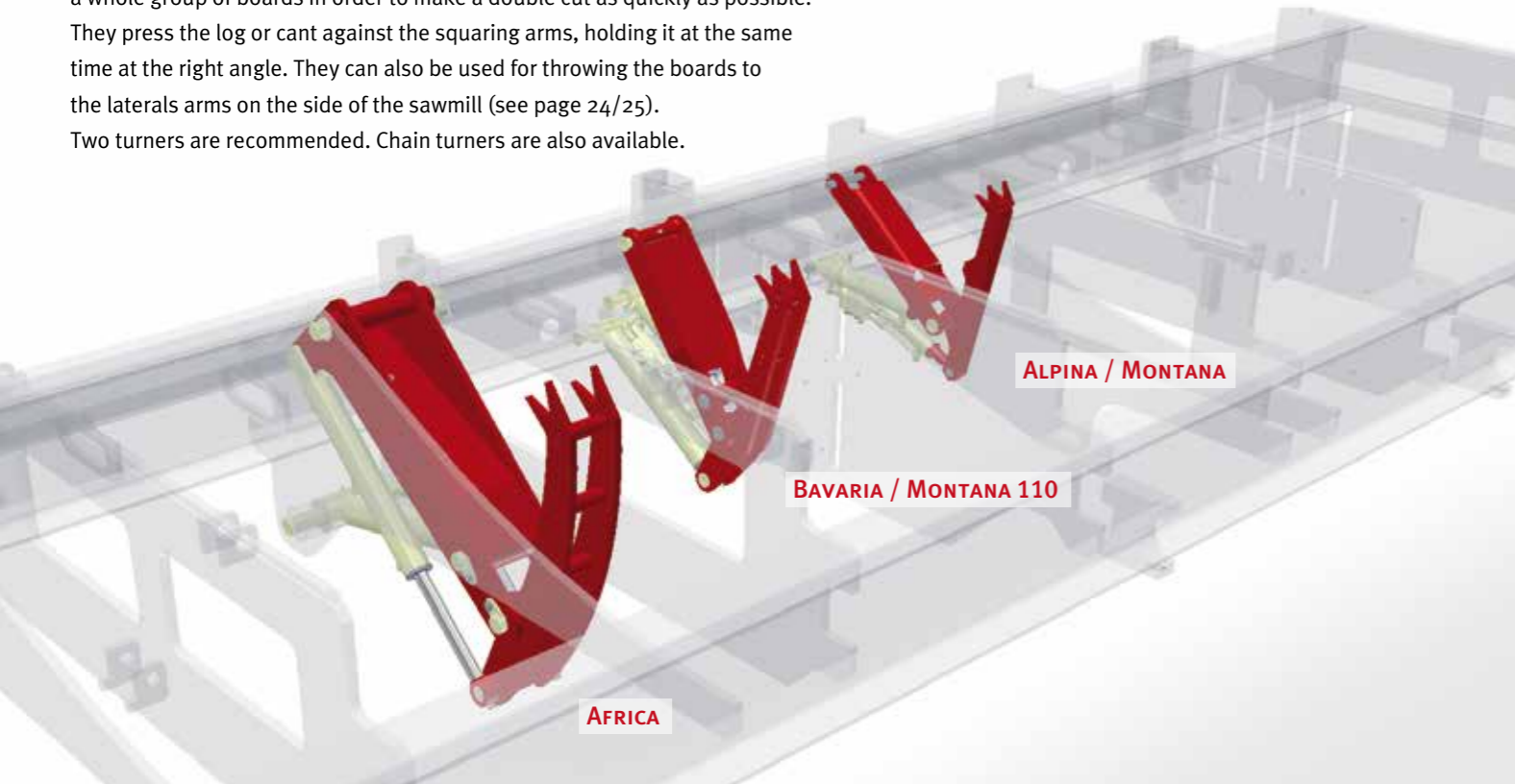
## — The roller drum

Moves the log back and forward so that it can be held with as many clamps as possible. One cylinder moves them up and down and a hydraulic motor makes them turn forwards or backwards. By using more than one of them you can move the cut boards to the end of the mill. On the Alpina and little Montana models the roller drum is not powered, but the log may be pushed manually backwards or forwards. They can also be used as log levellers.



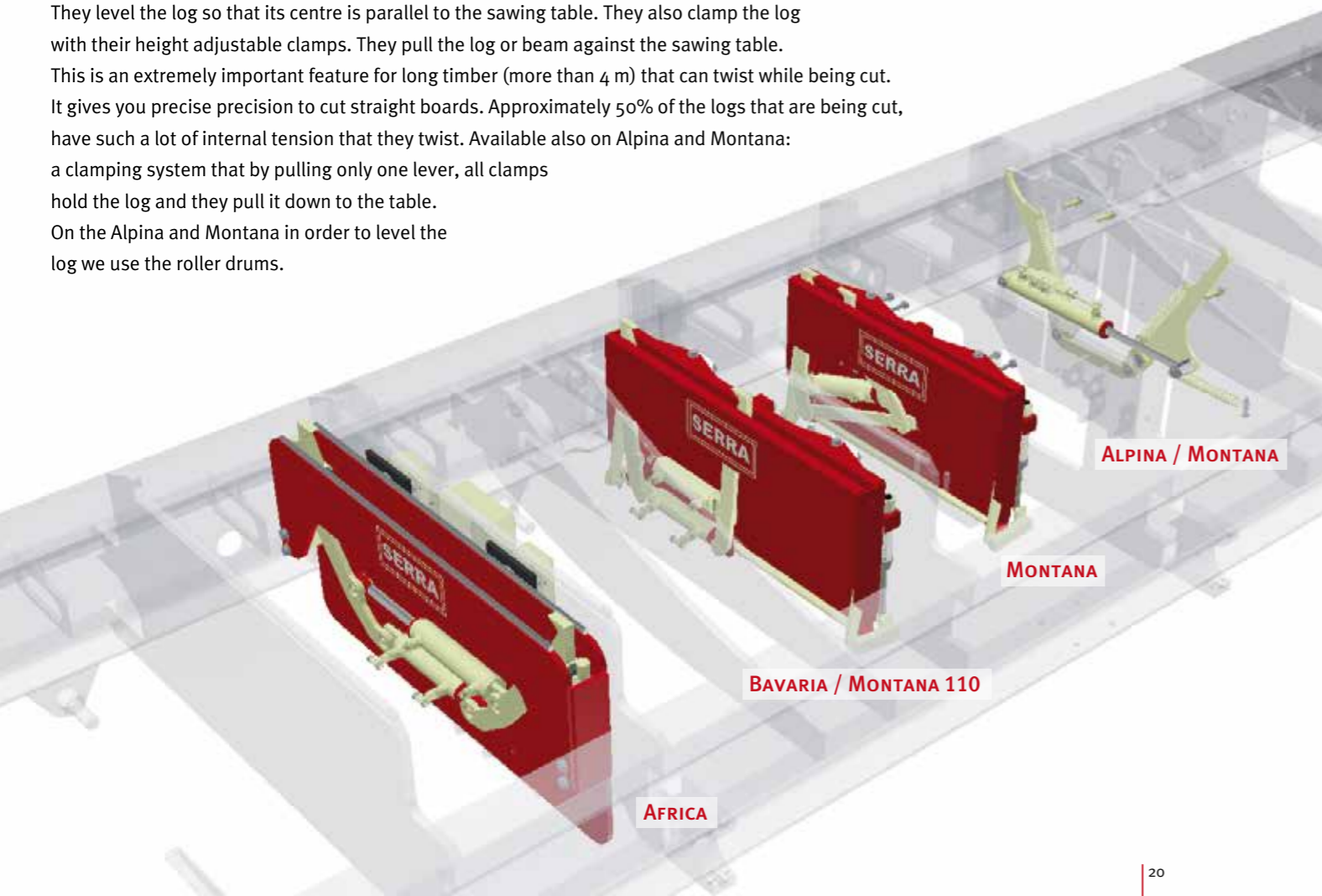
— **The log clamp turners**

They turn the log into the desired position. Thanks to this accessory we can do several kinds of cuts as for example wedges, tapered wood and octagon beams. We can also hold the wood in different positions which is important when cutting wood for manufacturing windows for example. They turn boards or cants quickly without any corner damage. They make it possible to turn a whole group of boards in order to make a double cut as quickly as possible. They press the log or cant against the squaring arms, holding it at the same time at the right angle. They can also be used for throwing the boards to the laterals arms on the side of the sawmill (see page 24/25). Two turners are recommended. Chain turners are also available.



— **Toe boards with clamps**

They level the log so that its centre is parallel to the sawing table. They also clamp the log with their height adjustable clamps. They pull the log or beam against the sawing table. This is an extremely important feature for long timber (more than 4 m) that can twist while being cut. It gives you precise precision to cut straight boards. Approximately 50% of the logs that are being cut, have such a lot of internal tension that they twist. Available also on Alpina and Montana: a clamping system that by pulling only one lever, all clamps hold the log and they pull it down to the table. On the Alpina and Montana in order to level the log we use the roller drums.



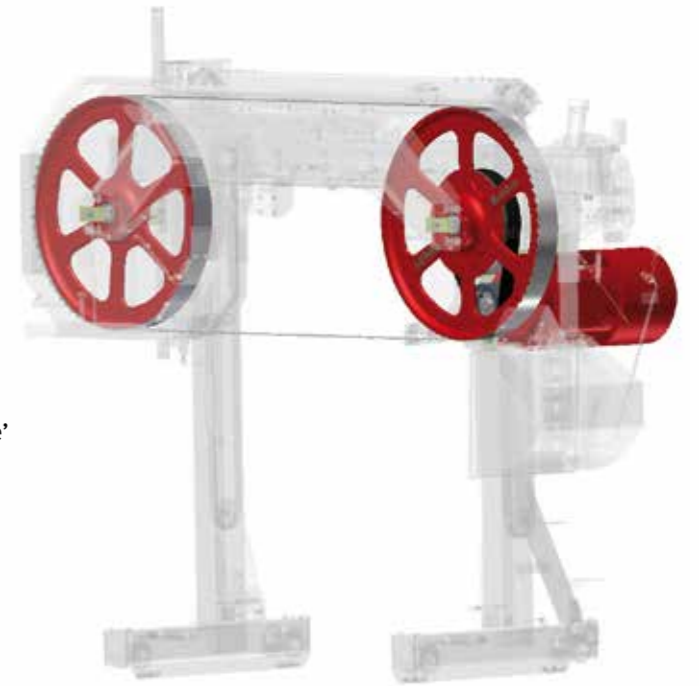
— **Cutting**

Once the log has been loaded, brought into position and clamped, then you can start sawing it. The sawblade is hydraulically tensioned (Mechanically on the Alpina). The sawblade guidance supports the band as it runs into the wood, it has to be as close as possible to the log and that is why this sawblade guidance is adjustable. This function is also hydraulic (On the Alpina it is mechanical). The cutting height can be done manually or with the help of the computerized positioning system.

— **The main engine**

Depending on the model we do have up to 5 V-Belts. The diesel engine on the Montana MD 90 and the fuel engine on the Alpina KB 90 grant you 100% mobility. This sawmill can be transported and used anywhere. All the other models have an electric motor. Most of the mobile sawmilling is done where electrical power is available. For other cases where no electrical power is available, we do offer diesel generators (See page 28). Most of the sawmills produced by SERRA are used in stationary sawmilling plants. The advantage of the electrical sawmills against diesel sawmills are:

- ▶ Amperemeter that shows power consumption of the main engine'
- ▶ Less costs
- ▶ Maintenance free
- ▶ Free of smoke
- ▶ Less noise
- ▶ Less vibrations
- ▶ Longer lasting life
- ▶ Less weight



PRECUTTER  
AFRICA XE 160

— **The precutter**

Cleans the log at the height where the blade cuts into the wood. This way the sawblade has a longer life. Because of the different wood types the barks have different thickness, with the precutter you can easily adjust the depth of the cut. It also has a system that protects the precutter from being damaged due to misuse.



PRECUTTER  
FROM THE OTHER  
MODELS

— **The sawdust collector**

The sawdust collector: Normally the sawdust falls alongside the sawmill and in windy conditions it is not pleasant to work in. The sawdust collector catches the sawdust. It can be emptied hydraulically usually at the end of the mill for example in a container or at the vacuum system.



## ANY SPECIAL WISHES?

You have your own ideas? Just tell us we will make them come true.

Just tell us your wishes. We have already received several requests from our customers. The following are some examples:

- ▶ Vacuum system for holding the cut boards
- ▶ Board cleaning system on the sawhead
- ▶ Two precutters. One on the side where the blades cuts into the wood and one from the side where the blades gets out of the wood
- ▶ Laser that shows the next cut
- ▶ Special sawheads for cutting special materials for example Balsa wood or paper
- ▶ Heated handle and a heating system for the feet
- ▶ Height adjustable tandem wheels in order to raise the complete mill for transport
- ▶ Different spot lights systems
- ▶ and the list goes on and on

And here are some examples from all over the world:



The overall length of a saw mill with a 9 m cutting-length is 12 m. That is the maximum permitted length for a trailer on public roads. The cutting length can be increased with an extension frame however. This frame is stowed on the main frame during transportation. Karl-Heinz Hillmer wanted a hydraulic folding solution to avoid the tedious process of lifting the frame manually. This increased the cutting length of his machine by 3 m and it only requires a small amount of additional setup time. He controls the folding mechanism by remote, which is also used for hydraulic levelling during setup and dismantling.



Herrmann Aistleitner wanted a cabine for his saw mill. And he had very specific ideas with regard to controlling his machine. Many functions were solved electro-hydraulically for him. An individually controllable squaring arm stop was on his wish list. Today, Aistleitner owns the machine he always dreamed of. For transportation, he hydraulically folds his cabine onto the base frame.



For an order for a saw mill in Gabun for logs up to 1.6 m in diameter, we were asked to develop and deliver two log conveyor systems that can handle up to 30 tons per system. The logs are moved onto the round timber conveyor by the loader and carried to the log lifter of the AFRICA with the push of a button. From there they are directly lifted onto the machine.

## BAVARIA SL 110i + BAVARIA SL 130i

The favourite model for people in the know.



From its inception (11/2002), the BAVARIA SL was a saw mill that was far ahead of its time.

Many of the newer models are based on the experiences gained from the Bavaria SL. The first prototype is still in use every single day. The variable saw head, which even back then provided plenty of space above the saw blade and worked with many different saw blade lengths thanks to the upwards-shifted hydraulic blade tension and the newly introduced AVS (Automatic Variator speed System), didn't just excite sawyers the world over. The jury of the innovation award of the KWF („Kuratorium Wald- und Forstarbeit“, board of trustees, forestry and wood work) found these arguments so significant and the technology so pioneering that it bestowed the 2004 model the innovation award.

But the development didn't stop there: in 2011 its successor, the new BAVARIA SE 135 was introduced (page 12/13), offering additional advantages. However, because the fan base of the BAVARIA SL is so large we decided to continue to offer that model. What stands out in comparison to the BAVARIA SE 135 is that it is available in two different sizes. The BAVARIA SL 110i for logs up to 110 cm in diameter and the BAVARIA SL 130i for logs up to 130 cm in diameter. We wish the many BAVARIA SL sawyers continued success and enjoyment with their BAVARIA SL.

### Technical Data

Diameter	SL 110 i 110 x 140 cm SL 130 i 130 x 160 cm
Cutting length	7 or 9 m (standard version) extendable if requested
Drive	Electric 18,5 kW
Output	14.000 Bft. (33 M3)/ 8 hours*
Weightt	3,5 t **

\*Dependent on diameter of log, and number of helpers  
\*\* Dependent on outfitting equipment

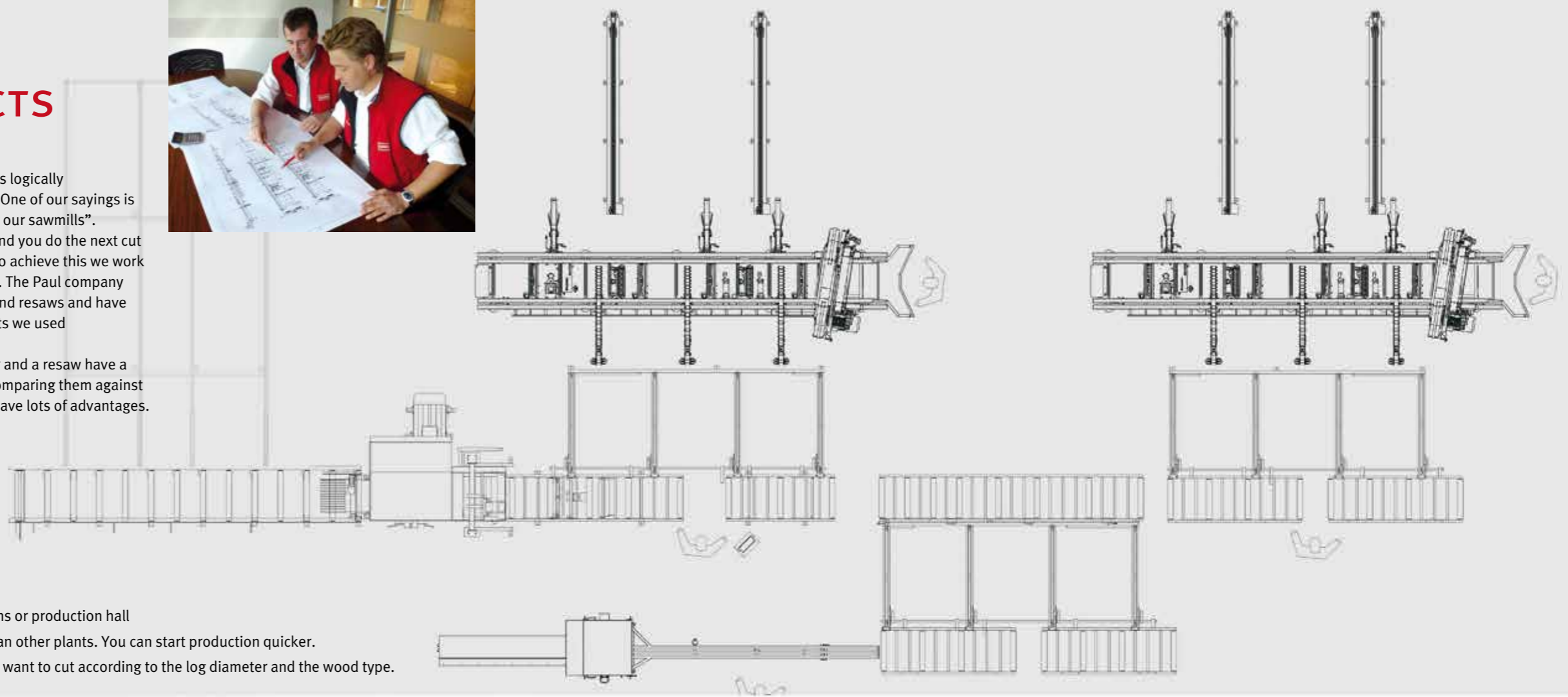


# SERRA PROJECTS



In the design project the art is placing the mills logically together to get a continuous flow of material. One of our sayings is "As long as the log is round it has to be cut by our sawmills". As soon as the log has been cut, we recommend you do the next cut on resaws or multiple circular saws. In order to achieve this we work together with a very famous business partner. The Paul company from Dürmentigen who manufacture edgers and resaws and have been in business since 1948. For these projects we used several SERRA sawmills and resaws. Plants with for example 2 sawmills, one edger and a resaw have a production of 80 cubic meters per shift and comparing them against the bigger sawmilling industrial plants, they have lots of advantages.

- ▶ You can expand and you don't need to invest everything from the beginning. The plant is expandable and flexible according to your needs.
- ▶ The production is distributed over more machines. Should one of them need maintenance, the others keep working.
- ▶ You don't need any complicated foundations or production hall
- ▶ Its installation is much faster and easier than other plants. You can start production quicker.
- ▶ You are more flexible by deciding what you want to cut according to the log diameter and the wood type.



## SERRA Projects: One example

In the United Arab Emirates wood is always more and more requested for construction purposes. Until now they have imported the cut timber from other countries. Some very smart business people started importing round logs and cut them in the U.A.E.. For this we built a plant with 2 sawmills SERRA SL130i with a multiple resaw S900 and an edger KME2 from the company Paul, of course with all its accessories as well as conveyors. Some time later the company in the U.A.E. decided to increase their productivity and we added a third SERRA Bavaria SL130i to the system.



The following accessories for a continuous flow of material are available for the sawmill. All these accessories are controlled by the operator. Lateral arms in the mill and beside the mill are available for mobile sawmills. The lateral arms beside the mill are foldable in such cases.



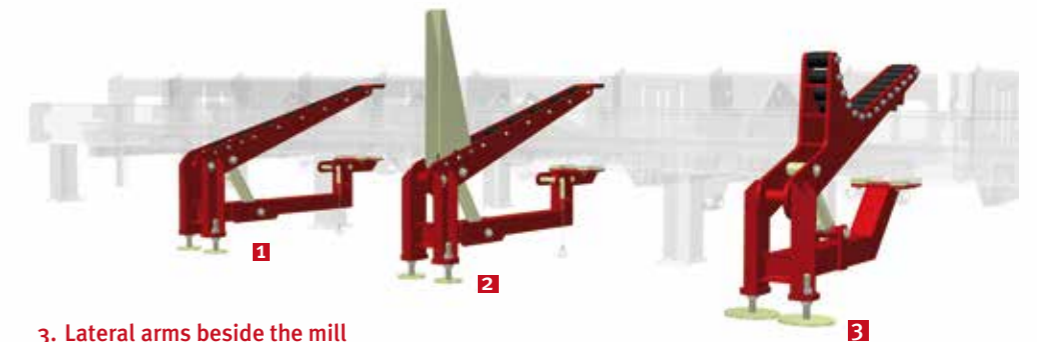
### 1. Log feeder with log separator

Transports individually the logs to the sawmill. From there the log is lifted up to the sawing table with the log lifters of the sawmill. Designed for logs with up to 70 cm of diameter and an approx. volume capacity of 10 m<sup>3</sup>. It works with electric engines and it is operated by the sawmiller.



### 2. Lateral arm on the mill

By turning the log, the cut boards fall from the log above the squaring arms. The lateral arms on the mill are lifted and the main products fall on to the lateral arms beside the mill.



### 3. Lateral arms beside the mill

The cut wood from the lateral arm on the mill is received by the lateral arms on the side of the mill. We have three different types.

**Type 1:** The wood rolls on this arm and falls on the floor, from where it has to be picked up. From there the boards can be placed on a conveyor.

**Type 2:** The cut wood is received by the lateral arms beside the mill, by lifting them up, the boards will be stopped by a holder. From there it can be removed by hand or by fork lift.

**Type 3:** The cut wood is received by the lateral arms beside the mill and once they are lifted the boards fall directly on to a conveyor.



## PROVEN: THE SERRA SAWBLADES FACTORY

At SERRA you have the possibility to order the blades for your SERRA sawmill direct from the factory. Generally it is recommended that you buy sawblades and sawmill from the same manufacturer. This grants you special technical assistance and by doing so, in case of reclamation, the blade manufacturer can not submit you to the sawmill manufacturer or the other way around. Frequently you can buy sawblades and sawmill from one manufacturer, but these companies may buy the sawblades from another manufacturer.

At SERRA are being produced for all our models all types of sawblades in our own factory. This because no one knows better than us how the sawblades should be finished in order to fit perfect on your SERRA and to get excellent results. You are the one that decides whether you want on your sawblades special tensioned steel for SERRA or if you want the well known steel from the Swedish manufacturer Uddeholm. If you want any special teeth angle on your blades or if you want any special teeth shape or a special stellite tip width. No problem at all. We can do it for you. The best sawmill will not work well if you don't have the right blades.



All our blades are tensioned on an automatic tensioning bank from the company Oppliger. This swiss company is known as the inventor of these machines. This own system and its commands work with high precision and fast. Quality problems by manual tensioning of the sawblades are eliminated with this system.



We always have enough blades for you in stock. The delivery is very fast. Special blades will take a little bit longer. You will receive the blades with a special paper board (causes less impact on environment than plastic) covering the teeth. The sawblades are sent in a very strong package. Of course if you want us to resharpen your sawblades or put new stellite on it, we can offer you this service as well.

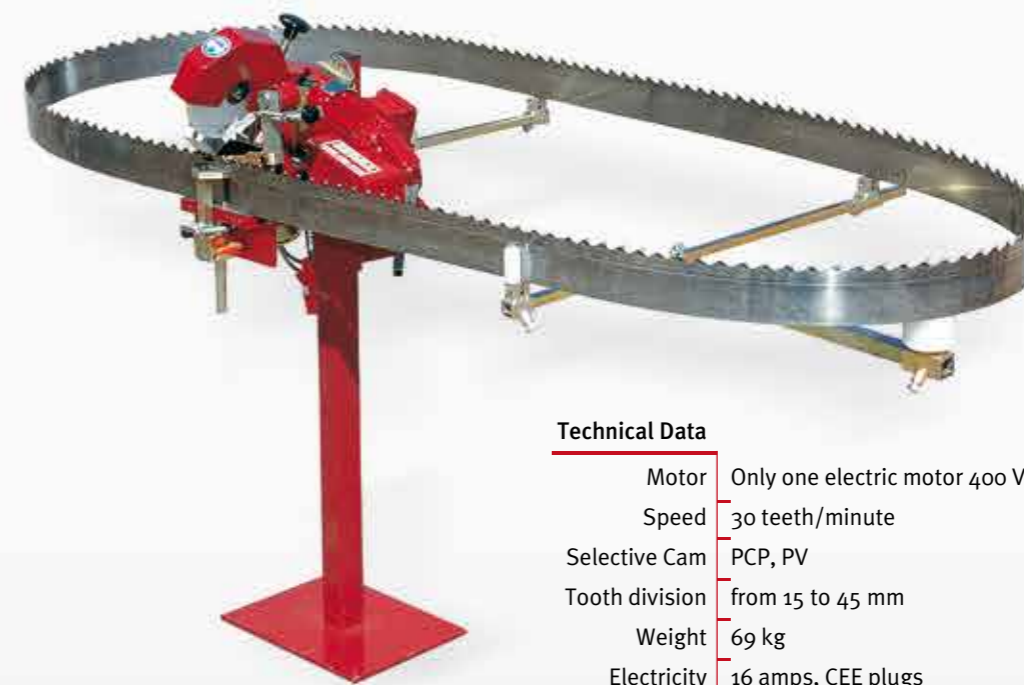
## SAWBLADE MAINTENANCE

The production capacity of a sawmill is markedly increased with precision sharpened and well maintained bandsaw blades. For that reason, it is important that you can re-sharpen your bandsaw blades simply and precisely right at your work site. Because you earn your money sawing and not at sawblade maintenance, we have developed a system which makes this important job a lot easier. And, however, being able to sharpen your own blades, will ultimately be quicker and cheaper for you.

## AUTOMATIC SHARPENER TYPE SHARK 100

**A compact automatic sharpener for bandsaw blades from 10 ft. (3 m) to 25,35 ft. (7,60m) in length and 1.18" (30 mm) to 5.90" (150 mm) widths.**

This automatic sharpening device guarantees absolute precision comparable to a maintenance-free and user-friendly stationary device. It is easy to transport, assembles with three parts, and is put into service quickly. The Shark 100 sharpens a blade automatically in about 10 minutes with a "precision" quality like that proverbial "Swiss watch."



### Technical Data

Motor	Only one electric motor 400 V/0.25 kW
Speed	30 teeth/minute
Selective Cam	PCP, PV
Tooth division	from 15 to 45 mm
Weight	69 kg
Electricity	16 amps, CEE plugs

### Your sawblade

Wide-band sawblades (>80 mm width) offer higher cutting speeds. We recommend the use of Stellite – tipped sawblades. The machined faces of the large bandwheels have small radius crowns on which the sawblades maintain centre. This is necessary so that your sawblade will centre under the high sawing speeds and not slide off the bandwheel. With SERRA, a new blade is rolled and levelled at the factory so that it is in sync with the SERRA bandwheels. If required, wide-band rolling and maintenance can also be performed at a local shop in your area.



### SERRA Blade roller unit

For you not to have the need to roll your blade we have developed a special crown on our driving wheels. This saves you time and money. The rolling is an art by itself and that operation is usually done on a heavy duty leveller which we can also provide. In spite of this, it can happen that you need to get your sawblade back in shape. For this, the SERRA adjuster is the perfect tool for saw blades up to 120 mm width with which you can quickly make the blade operable again without removing it from the sawmill. After the Stellite is worn off, you can re-tip with stellite. The blades can be re-tipped up to 4 times and each time they are automatically rolled.

# GENERATORS

If you want to cut without depending on a power supply but at the same time you care about cutting with an electric sawmill because of its advantages, then you can use our generators. You can place them far away from the mill and by doing this you have no noise and no smoke. You can transport them on a pick up or on top of the sawmill. In this case you have to tell us so we can adapt the tandem wheels for this extra weight.

## Diesel generator 44 kVA

### Technical Data

Performance	44 KVA
Rev/min	1500 RPM (U/min)
Engine	3 Cylinders (John Deere or similar), Water cooled
Fuse protection	16 and 32 amperes
Weight	840 Kg



## Diesel generator 65 kVA

### Technical Data

Performance	65 KVA
Rev/min	1500 RPM (U/min)
Engine	4 Cylinders (Cummins or similar) Water cooled
Fuse protection	1x16 A CEE, 1x32 A CEE and 1 x 63 A CEE, 2 x 220 volts
Weight	840 Kg



Other sizes on request!

# EXPORT SERVICE

More than 50% of our production gets exported. The machines always reach their ports in a 40ft. well packed container. If the sawmill is exported inside Europe we do load them in a truck. Do you want your sawmill to reach you as fast as possible? Then use our export service. In this case export documents are done and the machine is loaded. We only work with proven freight forwarders that we can rely on. If required we can also give you a certificate of origin.



### — Loading in a truck

In the picture a frame of a Africa SL160 is being loaded. On the truck this mill will go to the Russian city Sotschi. In 2014 they will celebrate the Olympic winter games and the SERRA sawmill will help by building the Olympic town



### — Loading a container for ocean freight

In order to save freight costs some customers want the mills to be loaded one on the top of the other. In some cases we have loaded up to three frames one on the top of the other. The sawheads and accessories are loaded in a 20 ft. container.



### — Our world wide training service

Most of our customers do use our world wide training service just in order to operate the machine as efficiently as possible from the beginning. For this purpose we have trained personnel that speak several languages. They will also give you some professional tips that will help you a lot.



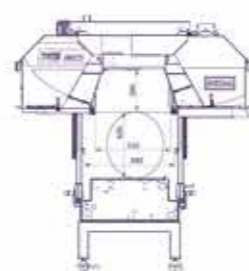
# OVERVIEW OF THE SERRA SAWMILLS

CE All SERRA models comply with the strict safety standards of the EUROPEAN UNION with CEE symbols

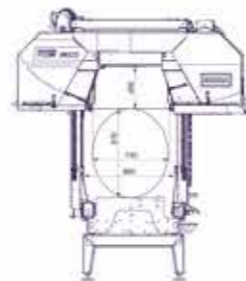
	ALPINA KE 90 AND KB 90	MONTANA ME 90 AND MD 90	MONTANA ME 110 AND MD 110	BAVARIA SE 135	Africa XE 135	Africa XE 160
<b>Capacities</b>						
Log length *	from 0,6 m	0,7 up to 12 m	0,7 up to 12 m	from 0,7	from 0,7	from 0,7
Log diameter	90 cm	90 cm	110 cm	135 x 154 cm	135 x 154cm	160 x 198 cm
Space above the sawblade	39 cm	40 cm	50 cm	50 cm	50 cm	70 cm
Space below the sawblade	65 cm	87 cm	87 cm	106 cm	120 cm	140 cm
Width of cut	73 cm	73 cm	87 cm	104 cm	104 cm	140 cm
Performance / 8 h **	7.600 Bft. (18 cbm)	10.600 Bft. (25 cbm)	11.822 Bft. (28 cbm)	14.000 Bft. (33 cbm)	14.000 Bft. (33 cbm)	15.200 Bft. (36 cbm)
<b>Main engine</b>						
	18,5 kW electric 26 KW (35 HP) fuel	18,5 kW electric 26 kW (35 HP) diesel	18,5 kW electric 22 kW electric (option) 33 kW (44 HP) diesel	22 kW electric 32 kW electric (option)	22 kW electric 32 kW electric (option)	32 kW electric 45 kW electric (option)
<b>Sawblades (Millimeter)</b>						
Width	80	80	100 or 120	120 or 140	120 or 140	150
Thick	1,0	1,0	1,1	1,1	1,1	1,24
Lenght	5.100	5.100	5.705	5.520 up to 6.020	5.520 up to 6.020	7.110 up to 7.605
<b>Hydraulic equipment</b>						
Log Handling (loading, turning, clamping...)	manual / hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
Sawhead advance	electric	electric/hydraulic	electric	electric	electric	elektrisch
Height adjustments	electric	electric	electric	electric	electric	elektrisch
Sawblade guidance	manual	hydraulic	hydraulic	hydraulic	hydraulic	hydraulisch
Precutter	yes	yes	yes	yes	yes	yes
Sawdust container	no	yes	yes	yes	yes	yes
Digital display	no	yes	yes	no	no	no
Computer	yes	yes	yes	yes	yes	yes
Automatic operation	no	no	yes	yes	yes	yes
<b>Working measurements</b>						
Height	2,50 m	2,70 m	2,65 m	3,15 m	3,10 m	3,70 m
Width	2,87 m	2,65 m	3,20 m	3,12 m	3,50 m	3,50 m
Lenght *	11,75 m	till 15 m	till 15 m	18 m	as required	as required
Weight ***	1,2 t – 2,5 t	3,5 t	till 3,5 t	3,5 t	6 t	8 t

\* Longer on request \*\* Dependent on diameter of log, board dimensions and number of helper \*\*\* Dependent on outfitting options

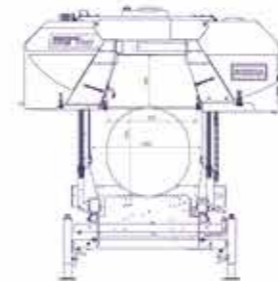
We are constantly working on advancing our development and technological improvements of our product line and to make them available to our customers. For this reason we reserve the right for technical changes in the sawmills as well as prices.



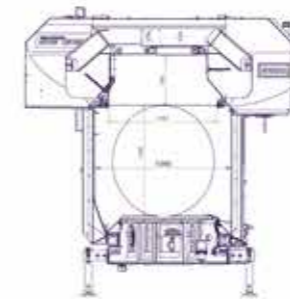
ALPINA  
KE 90 AND KB 90



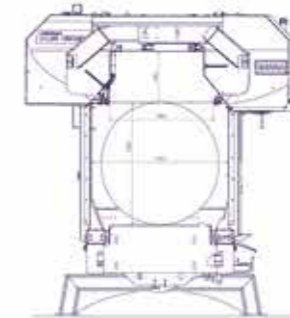
MONTANA  
ME 90 AND MD 90



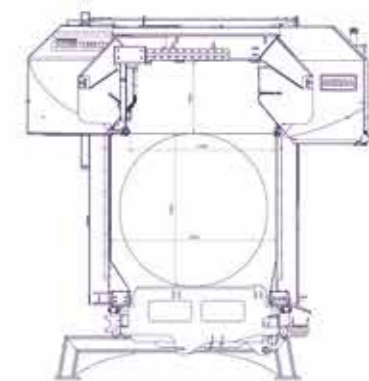
MONTANA  
ME 110 AND MD 110



BAVARIA  
SE 135



Africa  
XE 135



Africa  
XE 160