

# News

**MÄHLERS**

**#1** 2013  
**engcon®** | GROUP

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ALL THIS  
YEAR'S NEW  
PRODUCTS!**

**Flexiway – fresh ideas to  
take ploughing into the future!**

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# New technology on our roads

Summer is knocking on the door again after a number of tough winter days which offered many surprises on our roads right into spring. Following an uncertain start by Jack Frost during autumn, winter arrived suddenly in southern Sweden in the weeks preceding Christmas. One week before Christmas we experienced the biggest ever sale of spare parts. And 'ever' is a long time for a company that has been in existence for more than 100 years.

This winter has also proved to be an exciting period for another reason, as we have received the results of the world's most modern truck-fitted plough. Those in the know realize I mean the Flexiway diagonal plough which has sold beyond expectations, indicating that we are definitely on the right path with the road maintenance companies' specification of requirements for results.

Our results go hand-in-hand with our customers' ability to make money. Clearer roads with less trail-building, higher speeds, less working over and larger work surfaces have made Flexiway a winner. It is precisely this result that we have been focussing on and is due to Flexiway's adjustable contact pressure, because it can shift at a parallel angle, because it is articulated to follow the roads' uneven surfaces, because the plough has a built-in safety release of the plough steel in the event of running over any obstacles. In short – yes, Flexiway is built to meet the needs of the future.

As always there is a running-in period for new technology and new products, and in close collaboration with our customers we have carried out a number of modifications. This collaboration has been invaluable to us in our battle to provide the market with new technology that gives a ploughing result that no other plough even comes close to matching. We have been able to show our customers the strength of our aftermarket handling and the organisation we have with our service partners over the entire country. Besides our unique diagonal plough we have also had very good sales of our other new products, such as the grader blade/protruding jaw, the new ploughs HDU-B and 45-B as well as our high-powered snow loader LSV275 that fills a truck load in less than one minute. With all of our new technology and upgrade programmes we are able to maintain our position as leading supplier to the road maintenance sector, which is placing higher demands than ever.

**Stig Engström**  
CEO Mählers



## AUTUMN – A HECTIC TIME

There's full activity in the forest in autumn, and not just berry-picking and elk-hunting. At the Mählers factory in Rossön there's a hum of activity getting ready for the coming winter. It's mid-September when we visit, and everywhere we go there is a veritable ocean of products that will soon be out on the Nordic roads.

"Yes, autumn is an extremely intensive time for us," says Pär Andersson, Factory Manager at Mählers, sweeping his hand over the feverish activity in the assembly section.

Pär takes us to the rear of the factory where we find an impressive number of Mählers & Drivex ploughs standing ready for delivery.

"If I didn't know that all this was already sold I probably wouldn't be able to sleep at night", says Pär and laughs, indicating the stock of finished products.

### Facts Mählers factory in Rossön

The factory is located in Rossön in the county of Värmland, and produces Mählers and Drivex branded products. During 2012 nearly 900 ploughs were manufactured, together with over 800 buckets, grading blades, front sweepers, snow loaders, fork frames, crane booms, grabs and more.

Staffing at the assembly section can vary from 8 to 20 employees depending on the season, and during recent years significant investments have been made to modernise production on adapted assembly lines. Besides production the same building is home to the sales department, design and administration.





**Mählers sales force.** From the left: Dennis Ivarsson, Mats Skoglund, Ann-Catrin Abbing, Jenny Persson and Urban Jonsson.

## MÄHLERS making further reinforcements

**“It feels really good to be able to talk about our latest recruits!”**  
Anki Abbing, Mählers Sales and Marketing Manager talks about two additions to her sales force.

In order to increase market presence in the southern part of Sweden Dennis Ivarsson has joined us as sales representative South. Dennis originally comes from Okome in the county of Halland, but now lives in Stockholm where he is also based, and will cover the area from Stockholm and southwards. Anki herself will cover the northern area.

Dennis has amongst other things worked for 6 years as a construction worker, and most recently as a sales representative in the window sector. During his first month at Mählers Dennis has put almost all of his waking hours into reading up on the company and its products. During the little free time he has Dennis has been training, to maintain a part of the physical condition he was in when playing football with Ullareds IK a few years ago.

“It's going to be cool and exciting to get out and meet Mählers customers”, says Dennis with the clear dialect of the Halland region.

The second new position is in the office in Rossön where Jenny Persson has been employed in indoor sales, and will be working together with an “old hand” – Mats Skoglund, and Urban Jonsson to serve customers telephoning in.

Jenny has been working in Mählers dispatch department since 2011 and consequently has valuable experience of both the company and its catalogue. Jenny has already spoken with many of the company's customers which gives her a good starting position at the outset.

“I'll also be participating in a number of customer activities such as trade fairs and exhibitions, and that's something I'm really looking forward to”, says Jenny, whose career before Mählers has spanned from purely administrative tasks to working at a sawmill.

“We're increasing the service level further by employing Jenny and Dennis and also free up more time to be out among our customers”, says Anki Abbing who is looking forward to working together with two young, hungry sales staff who are not afraid to roll up their sleeves when necessary.

In addition to these reinforcements Mählers continues to expand the network of authorised service partners (ASP). One of them, Anderssons Maskinservice, can be found on page 14.

A wide-angle photograph of an ice hotel construction site. On the left, a large ice structure with a dark rectangular opening is visible. In the center, a red snow loader is spraying a fine mist of snow onto a large ice wall. The background shows a vast, flat, snow-covered landscape under a bright, hazy sky.

# SNOW SAVES THE ICE HOTEL

At the Ice Hotel in Jukkasjärvi the March sun shines from an ice-blue sky. This gives a magical sheen inside the grand pillared hall. However the spring sunshine can be devastating for the ice if it gets too strong.

So in order to protect the ice a thin layer of snow is sprayed onto the outer wall of the pillared hall.



Sten-Åke "Stängen" Muotka from All-Sten in Kiruna thinks the Mählers snow loader is effective.



Sten-Åke "Stängen" Muotka from All-Sten has rolled the 20 km from Kiruna with a Ljungby L13 fitted with a LSV 275 snow loader from Mählers. He uses this combination to carry out the "Rescue Mission".

"The snow loader works just fine. It beats the air out of the snow so that it becomes fine-grained", says Sten-Åke.

Jobs around the Ice Hotel are always somewhat special.

"The work we do for the Ice Hotel is the creaming on the cake for us. Of course it's great to be a part of one of Sweden's most famed buildings, even if it doesn't generate more than a week's work in total", says Mikael Fors, CEO at All-Sten AB.

This is the second season that he and Sten-Åke are working together with the Ice Hotel. In previous years they have been used to spray ready-made moulds which are placed in cold storage for the next year. But new ideas and the lack of storage space has caused a change in procedure. Instead the steel constructions are put in position at the end of October and are sprayed with "snice", a mix of snow and ice, which are then used to create buildings.



The snow loader sprays a thin layer of snow to protect the ice wall in the Ice Hotel's pillared hall from too much sunlight.



This is the second season that Sten-Åke and All-Sten are working together with the Ice Hotel.

#### 64 cold rooms

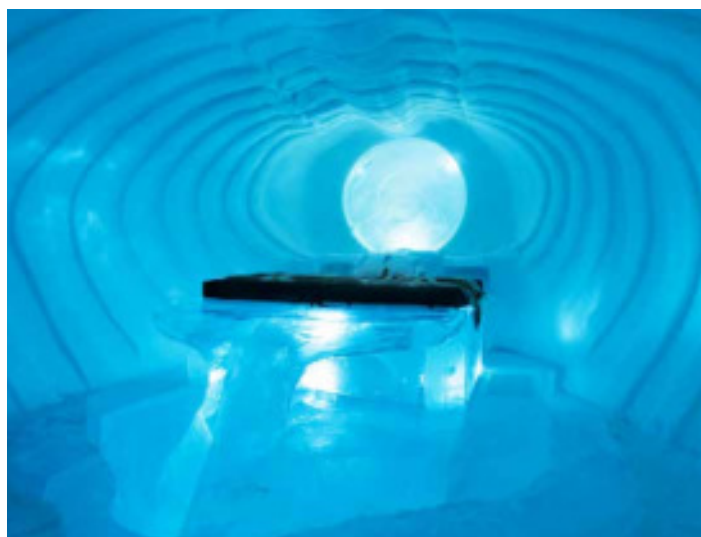
The Ice Hotel is built every year, using 2 000 tons of ice and around 30 000 cubic metres of "snice". The first stage is estimated to stand ready in December. Another five steps follow as each section is completed. By January the Ice Hotel has 64 guest rooms, a pillared hall, ice bar and much more.

"The Ljungby and snow loader were bought last year, and we were able to do some work on the hotel at the end of last season"; says Mikael.

In winter All-Sten's daily work consists of snow clearance and removal in central Kiruna.

"The snow loader is efficient and works well. But personally I think that the motor is not powerful enough. It's difficult to keep up with the truck to be loaded if the conditions aren't perfect", explains Sten-Åke, whose loading record is an impressive 30 cubic metres in 30 seconds.

After an hour's work on the Ice Hotel's southern wall Sten-Åke has sprayed all the snow needed for the day, and rolls back to Kiruna as something of an angel to the rescue.



#### Facts Ice Hotel

The Ice Hotel is in the small town of Jukkasjärvi, 20 km east of Kiruna and 200 km north of the Polar Circle. The Ice Hotel covers around 5 500 square metres.. It is constructed from around 2 000 tons of ice from the Torne river and 30 000 cubic metres of "snice", a mix of snow and ice. Around 100 people are involved in the construction of the hotel, of whom half are artists.

The hotel consists of 64 cold rooms. During the season nearly all the rooms are occupied nearly every night. There are also warm rooms available for hire at the hotel. Every year 50 000 visitors come to Jukkasjärvi to experience the Ice Hotel, the Northern Lights, the cleanliness and the serenity. The Ice Hotel melts in April and the circle is completed when the water runs back into the Torne River.

LSV 275

# SNOW LOADER

**The market's  
quietest and  
most eco-friendly  
snow loader**

Mählers snow loader is fitted with double safety breakers that immediately stop the snow loader if necessary.



**LSV 275** has a robust construction based on the Arbrå/Mählers ejector's popular and trustworthy design. It is extremely quiet in operation, which makes it suitable for use in densely populated areas, and has a large ejector capacity reaching up to high truck beds and containers. It uses its own drive motor and transmission with centrifugal clutch. The LSV 275 is designed with safety in mind, with individual shear bolts on the angled wings. The load arm can be hydraulically folded to make driving between locations easy, and is fitted with headlights and the snow roller can be connected and disconnected without having to switch the motor off. The motor fulfils the latest environmental requirements in Stage 3B and is therefore approved for use in Stage 4.

## Advantages of the snowblower

- **Safety:** The driver can focus entirely on going forward and thus avoids reversing, something which may pose a risk in urban environments in particular.
- **Capacity:** A lorry load of around 25 m<sup>3</sup> is filled in less than one minute.
- **Efficiency:** Apart from being very efficient, the snowblower also has the advantage of breaking up and compacting the snow in a completely different way to traditional loading buckets, resulting in higher compacting efficiency and fewer loads.
- **Power:** The effect has been increased to 150 kW, giving the snow loader the ability to move hard packed snow and ice without any problem.
- **Noise level:** Quietest in its class. Noise measurements show that the LSV275 has a noise level of only 72.3 dB at a distance of 10 m
- **Design:** Based on the robust design of the well-known Arbrå/Mählers ejector.



## Clutch

- New type of clutch from "Transfluid"
- Hydraulically operated
- Full power at low engine speeds
- Allows increased safety in engine maintenance

## Technical specifications

Snow loader	LSV 275	
Operating width	mm	2 750
Clearance under loading arm	mm	3 850
Rotor diameter	mm	800
Capacity (depending on snow)	m <sup>3</sup> /min	25–45
Electrical system	V	24
Total weight	kg	3 100
Motor*	Mercedes OM 924 LA	
Effect at 2,200 rpm	kW	150
Torque	Nm	800

\* Fulfils the latest environmental requirements for Stage 3B and is therefore approved for use after 2012.





"The end result is incredible and leaves the road very clean with the slush cutter taking the last of the slushy snow away, it is also very even and follows the road beautifully".



## Flexiway takes ploughing to a new level

When Ricky Bergsman started driving trucks and ploughing in 1973, he used a V-shaped plough from Svedala.

He's now using the very latest, Flexiway from Mählers.

"It's worked incredibly well. If the snow's compacted and hard all I have to do is increase the pressure and the plough clears it up anyway. In slushy conditions it leaves a fully clean asphalt road surface", he says admiringly.

Ricky has also tried being self-employed, but nowadays he drives for G Arnessons Åkeri in Likenäs in Värmland county.

"It really doesn't matter, I still work as if I was self-employed", says Ricky who has full responsibility for the vehicle he drives, and its equipment.

"And if I don't call the boss every day he'll probably wonder if I'm still working for him", he says with a twinkle in his eye.

He is one of the first to drive with Mählers new plough, which is based on a totally new concept with adjustable pressure and side ejection up to 450 mm on either side.

### Runs evenly and precisely

"The secret lies in correctly adjusting the pressure, enabling the plough to run extremely evenly and precisely", explains Ricky who ploughs Routes 240 and 63 around the town of Hagfors for the main contractor PEAB.

"The end result is incredible and leaves the road very clean due to the slush cutter taking the last of the slushy snow away and also, it is very even and follows the road beautifully. All I have to do is lower the blade and drive. I've used the same blade all the winter, a tempered metal blade with drilled coromant cores", he adds.

Ricky also uses Mählers underbite, which uses the same principle. He sets the correct pressure for the conditions, all operated via Mählers new MC2 control system.

"There were a few teething problems when the new plough arrived", he says, "but Mählers fixed everything".

"Mählers support is fantastic. They've helped me with everything I've mentioned to them". With new and pioneering technology such as this you have to be prepared for a running-in period.

On the other side of the coin, drivers such as Ricky hadn't given feedback, Mählers wouldn't be able to develop new products that meet the increasingly tougher demands of, for example, clean roads and higher ploughing speeds that customers make.

FLEXIWAY 2013

## DIAGONAL PLOUGHS

# Mählers develop unique concept

**NEW!**

Flexiway, an entirely new concept for more efficient snow ploughing was introduced ahead of the winter season 2012–2013. Now, ahead of the upcoming winter season, Mählers is presenting a number of updates, making Flexiway even more efficient. Amongst other details the plough has been reinforced at a number of points and the lifting geometry has been improved, allowing the plough to lift both higher and more evenly.

Mählers' unique diagonal plough is developed based on an innovative concept in the industry to meet the increasingly tougher demands for faster ploughing speeds and a so-called 'black road', that is to say a road surface clean from snow or slush after ploughing.

"The Flexiway is designed so the driver can adjust the blade pressure according to the actual conditions. For light ploughing the pressure is adjusted so that the plough follows the road surface with minimum pressure. For heavier ploughing, needing more blade pressure, the driver simply makes an adjustment using Mählers' new MC2 control system", explains Stig Engström, Mählers CEO, and continues;

"Thanks to an advanced pressure guard on the plough it doesn't even matter if the road surface is uneven. The plough retains a constant blade pressure and in so doing secures a maximum result. This also gives the driver the chance to increase the ploughing speed".

### Environment and economy

"The correct plough pressure also contributes to a reduction in wear-and-tear, less fuel consumption and quieter operation. Flexiway is beneficial in terms of both environment and economy.

Flexiway can additionally be extended sideways up to 450 mm on both sides. This means a more efficient ploughing around traffic islands and other obstacles along the roads which make life difficult in a conventional plough that cannot be sideways extended or retracted."

### Technical specifications

Flexiway		
Cutting width	mm	3,700–4,600
Minimum operating width	mm	3,390
Height, right	mm	870–1,170
Height, left	mm	980
Rotation	°	24–42
Steel blade	pcs	4–6
Side ejection	mm	± 450
Weight excl fitting, from	kg	650
Weight incl fitting*	kg	1,000–1,200

\* depending on model

**The plough will be upgraded on a number of points ahead of the winter season 2013–2014.**

- ▶ Improved lifting geometry (lifts equally regardless of position)
- ▶ Improved lifting height
- ▶ Improved ejection height
- ▶ Modified ejection minimises the risk for snow on the windscreen
- ▶ Improved and more service-friendly hydraulics box
- ▶ Reinforced plough box
- ▶ Reinforced joint with expansion bolt between plough boxes
- ▶ Reinforced and modified blade holder allows optimal use of the blade
- ▶ Modified position light bracket for maximum visibility even in transport position
- ▶ Reinforced gate
- ▶ Load bearing valves on the side ejection cylinders
- ▶ Reinforced design of the extending parts

No wheels or runners





MÄHLERS



All of Mählers diagonal ploughs conform to EN 13021+A1:2008 thanks to triggered safety blades that can cope with a height of 50 mm at 40 km/h.



Modular build from 3,7 to 4,6 m

#### Safety cutters.

Tackles 50 mm high obstacles at 40 km/h in compliance with EN 13021+A1:2008. With steel and rubber, steel cutters or tempered steel cutters

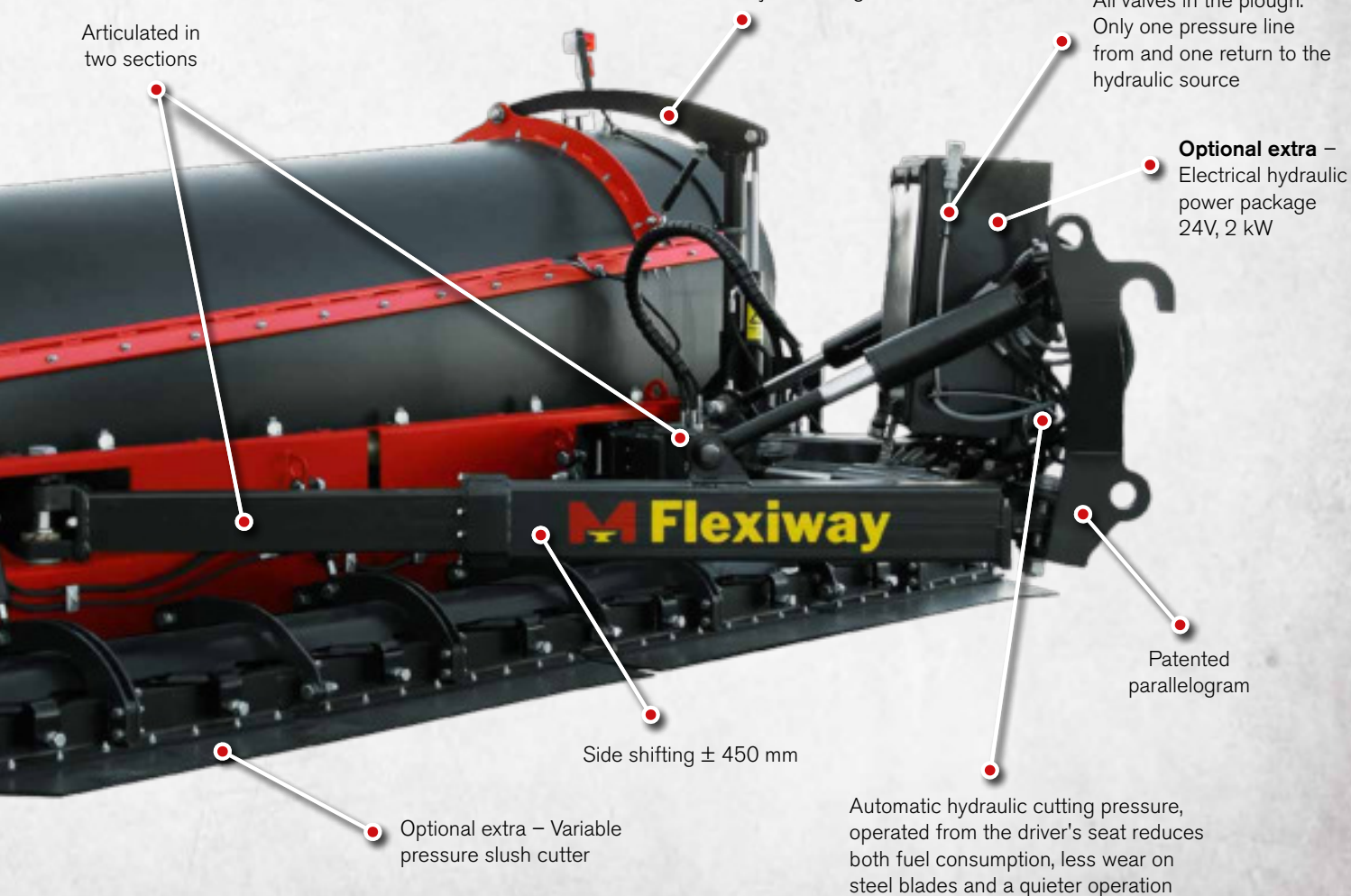
Safety release for extending parts

Variable ejection height

Articulated in two sections

All valves in the plough. Only one pressure line from and one return to the hydraulic source

**Optional extra –**  
Electrical hydraulic power package 24V, 2 kW



Patented parallelogram

Side shifting  $\pm 450$  mm

**Optional extra –** Variable pressure slush cutter

Automatic hydraulic cutting pressure, operated from the driver's seat reduces both fuel consumption, less wear on steel blades and a quieter operation

# HARD-WORKING AND FLEXIBLE

Fredrik is clearing the road towards Sikfors. The Flexiway diagonal plough has good road-holding, is flexible and provides a good result.



The sky is blue and the area of Dundret lies in its winter cloak of powdered icing on a bun. As there is no significant snowfall forecast Fredrik Levander takes time to clean up the road towards Sikfors. The snow billows and the train leaves a level winter road surface behind it.



The vehicle is also fitted with Mahlers side plough and grader blade to form a complete winter train.

When Ola Konsulting in Gällivare had to fit their new Volvo FM with winter equipment the choice fell to Mählers ploughing equipment. It ended up with a Flexiway diagonal plough, an hydraulic 45-B side plough and an under-fitted HB3N grader blade.

"It felt great to be able to take a brand new vehicle out with completely new equipment straight after the winter's first snowfall," explains Fredrik Levander.

Fredrik comes from the island of Gotland and ended up as a result of Cupid's arrow in Jokkmokk ten years ago. He has his own company, Levander Bil & Maskin, where he works as an entrepreneur driving and operating his machinery. He has been driving for Ola Hansson for around a year and has among other tasks ploughed a length of the E45 motorway between Jokkmokk and Porjus. All in all he is responsible for 86 km of main road.

"The ploughing season is a bit longer in Lapland and we get more snow. Even so, it's easier to plough as the snow is both cold and lightweight. Home in Gotland it was either wet or had been driven by the wind and packed hard," says Fredrik.





Fredrik can easily adjust the plough's hydraulic pressure from the operator's position.



Ola Hansson flanked by his sons Andreas and Marcus. Together they run the family firm that has been in the industry for more than fifty years.

### Long miles

In December alone he drove 40 trips. By mid-March the new vehicle had already been out ploughing 130 times over a course of 26 000 km.

After having learnt how to handle the lightweight diagonal plough where the hydraulics are adjusted from the cab with the aid of the joystick, Fredrik has got on very well with the new plough with the final steel blade in direct contact with the road surface.

"The plough's roadholding is good and gives a very good result. It's also easy to extend the plough width thanks to the side extension. It's practical when I have to plough at junctions and parking bays".

The Flexiway that Fredrik has operated for one season is one of the northernmost ploughs that Mählers have delivered. He's also looking forward to being a test-pilot for the next generation of ploughs.

"As we always have proper winters here, it really is the right environment in which to test the equipment".

The control system complies with safety standard EN 13849-1, effective from 1 Jan 2012.



**NEW!**

## CONTROL SYSTEM MC2

Mählers' new control system MC2 can be combined for both grader blades and ploughs. Most functions are controlled largely using a joystick. The system is expandable and can control existing equipment. Operation of all equipment is now from the new control unit.

### Specifications

- A CANBUS system.
- Buttons on the operating box are used to select plough control or grader blade control.
- The control system complies with safety standard EN 13849-1, effective from 1 Jan 2012.
- For safety reasons, a PVG valve or an ON/OFF valve must be installed on the system in front of the hydraulic package to de-pressurise the system when no function is being used.





Watch the video at  
[www.mahlers.se/youtube](http://www.mahlers.se/youtube)

## UMEÅ IN ITS WINTER CLOTHES

Following a trip around Finland, which ended with ice-breaking in the Gulf of Bothnia, Mählers correspondent in Umeå arrived back via the ferry that plies the Vasa – Umeå route. On the way back from the harbour I met a brand, spanking new Volvo G946 road grader cutting the ploughed edges of the road.

Curiosity got the better of me and I followed it, and at a passing point I stopped next to the grader and had a chat with André Edlund, who worked as a grader driver for Torbjörn Sundhs Entreprenad AB.

André decided on his chosen profession at an early age.

“No doubt whatsoever – the grader as a machine has always fascinated me and during my high school years at Liljaskolan in Vännäs where I studied contracting machinery I took the final decision to choose the grader as my speciality,” André explained.

André also told us that his twin brother Erik took the same course and also took the same speciality, which he, too, ended up driving.

André continues his way through the snow banks applying full power to his Mählers SVH 4 side wing that efficiently moves the hard snow plough edge through the meter-high snow banks that occur during the winter.

Shaving the top layer off the ploughed banks to improve visibility at crossings and roundabouts is both a safety and a preventative measure, in case of further snowfall to provide more space for other snowploughs and that the edges melt faster once the spring sun manages to penetrate.

In all André ploughs around: 1,000–1,500 hours every winter, depending on how much snow falls.

I get to exchange another few words with André before I travel home and he is especially impressed by the Mählers side wing.

“The SVH 4 feels incredibly stable regardless of how hard I push it,” says André, whose experience of the blade's performance on hard packed ice is only positive.

“Operating the grader, winter or summer, is a fairly challenging task and it's always just as satisfying to see the final result,” concludes André before moving on to the next road that needs attention.



**NEW!**

All Mählers side wings have so-called shock-valves that are activated in the event of a collision with a solid obstacle such as a steel or concrete barrier, and prevent the vehicle from being thrown out onto the road surface.



## ■ SIDE PLOUGH HDU-B

**HDU-B** is the updated version of our best-seller which has been reinforced with a screwable extension to increase flexibility, enabling the plough to be adapted to 10, 12, 14 and 16 feet lengths by replacing the front section of the plough. which is a very handy feature when the plough is to be used on trucks with different dimensions.

Side plough that rests on a height-adjustable supporting plate-type skid or stabiliser wheel while in operation. The front of the plough is fitted with a moveable mounting bracket for attachment to a front support hinge on the truck. A steel cable serves as an extra security device.

### Specifications

HDU-B	10 feet	12 feet	14 feet	16 feet
Total height incl. steel cutting blade	1,540 mm	1,540 mm	1,540 mm	1,540 mm
Total weight	580 kg	630 kg	680 kg	730 kg
Transport width	900 mm	900 mm	900 mm	900 mm
Cutting length	3,060 mm	3,660 mm	4,270 mm	4,880 mm
Steel cutting blade L=1,220	–	3	1	4
Steel cutting blade L=1,525	2	–	2	–

## ■ THE 45-B SIDE PLOUGH

**The 45-B side plough** is a new side plough that offers many economic and environmental benefits. The 45-B side plough rests on a height-adjustable supporting plate while in operation. A wheel assembly on the plough frame ensures optimum contact with the contours of the road. Delivered with a moveable mounting bracket for attachment to a front support hinge on the truck. A steel cable serves as an extra security device.

### Specifications

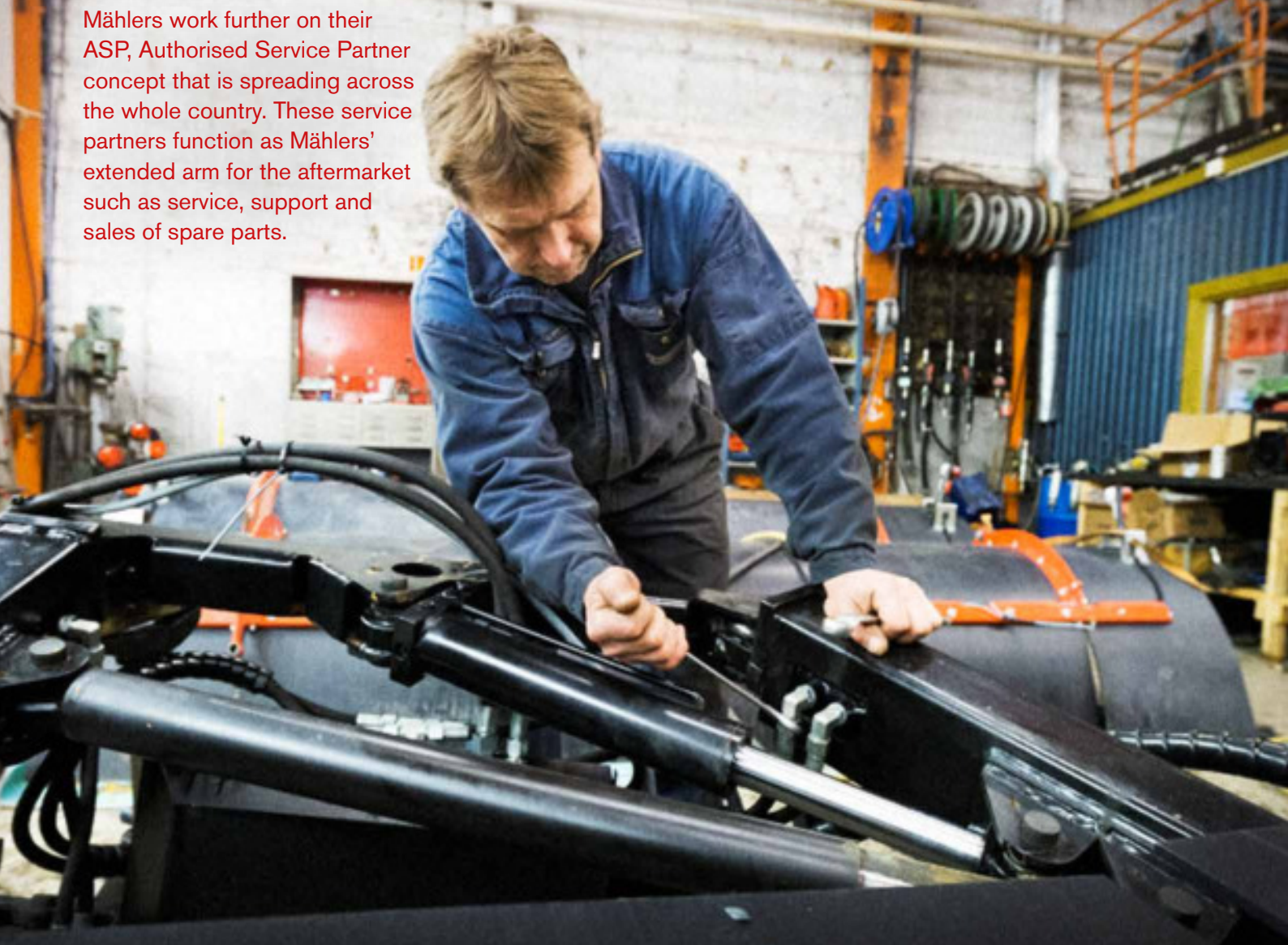
45-B	10 foot	12 foot	14 foot
Total height incl. steel cutting blade	1,320 mm	1,320 mm	1,320 mm
Total weight	800 kg	855 kg	905 kg
Transport width	800 mm	800 mm	800 mm
Operating width step 1	approx 1,750 mm	approx 1,750 mm	approx 1,750 mm
Operating width step 2	approx 1,750 mm	approx 3,000 mm	approx 3,000 mm
Cutting length	3,060 mm	3,660 mm	4,270 mm
Steel cutting blade L=1,220	–	3	1
Steel cutting blade L=1,525	2	–	2

**NEW!**

# ANDERSSONS MASKINSERVICE

## – A SERVICE PARTNER WITH SCOPE

Mählers work further on their ASP, Authorised Service Partner concept that is spreading across the whole country. These service partners function as Mählers' extended arm for the aftermarket such as service, support and sales of spare parts.



The company is beautifully situated by the harbour in Örnköldsvik and one of its closest neighbours is the Fjällräven Arena, home to Modo ice hockey team.

The founder and owner, Ted Andersson, started the company in 2003 after having worked as a service technician for Ponsse forestry machinery, and before that Ted had been servicing trucks at BT Truck, and had worked on road construction. In other words a broad technical background that will now be very useful in his own firm.

Besides Ted there are two technicians in the company that also serve engcon and Drivex machinery.

"Yes, we've been servicing engcon's products for several years but now we've gone up a gear, taking Drivex into our service scope", explains Ted whilst he shows us round in his well-equipped workshop.

Every imaginable tool and piece of equipment can be seen in his workshop to serve everything from purely mechanical products to advanced electronics. Here we can also see a considerable range of spare parts for Mählers, engcon and Drivex products, to be able to help customers as quickly as possible which is a part of the ASP concept.

"The customer must be equally able to call us with their aftermarket requirements as to Mählers or engcon directly", says Ted Andersson.

Besides Mählers, engcon and Drivex Anderssons Maskinservice is an authorised service partner for Ljungby wheeled loaders, Hyundai contracting machines, Grönyte machines, Air Condition systems, Lincoln central lubrication systems and that they are a part of the Mekonomen chain of parts sourcing and vehicle repairs.

In other words a service partner with significant scope.



# HB3N & HB5N GRADER BLADES



The greatest advantages of our new upgraded grader blades are the smaller installation dimensions and higher ground clearance in the transportation position. It is easier to fit, reducing installation time. It is also easier to attach, making assembly faster. The HB3N is fixed and the HB5N is rotatable.

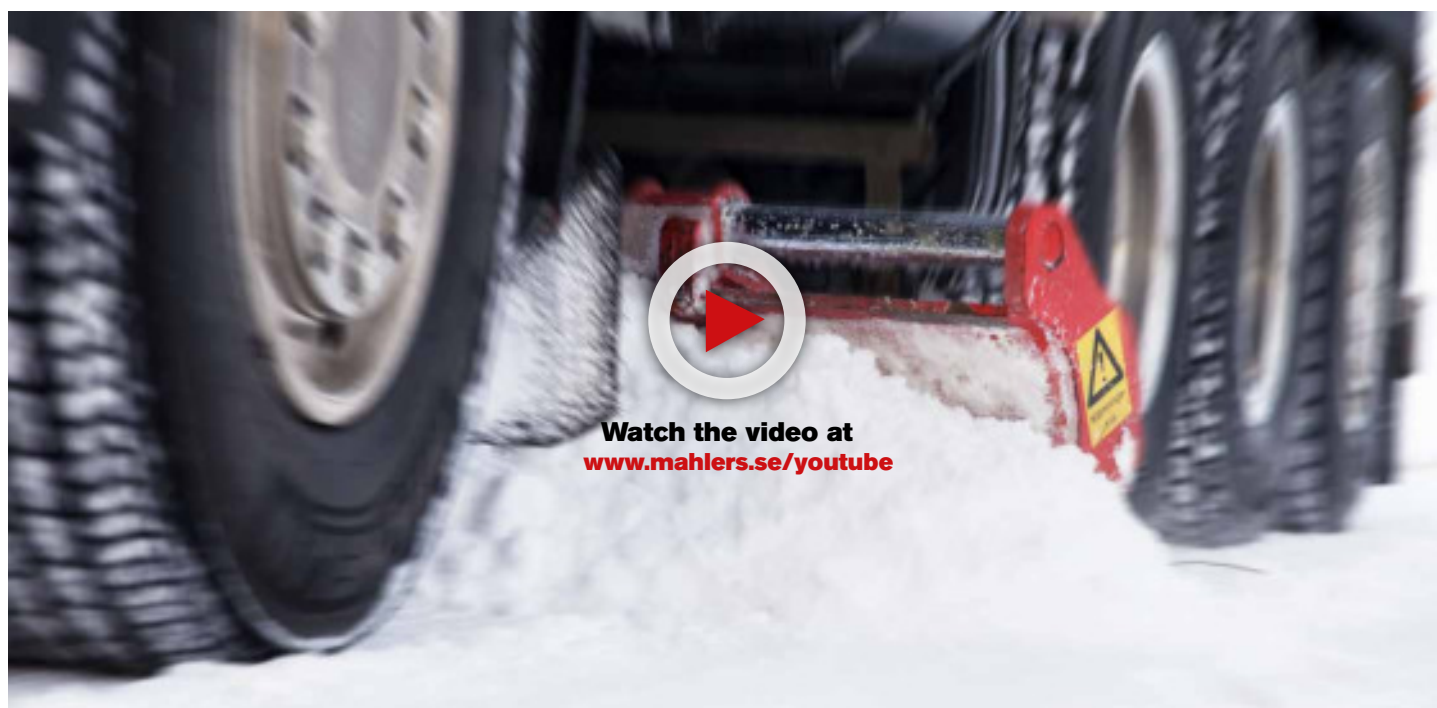
## Improvements to the grader blade:

- Grader blade has lower built-in height.
- Higher ground clearance in transportation position.
- Blade is made of stronger material.
- The grader blade's tilt function has adjustable contact pressure as standard.
- New type of mounting on the truck frame with shafts as guide rails eliminates the need for welding during assembly. On the HB5N welding is now only necessary when adjusting the turntable angle on the relevant truck.
- The HB5N has double rotation cylinders for even/constant force distribution during rotation to right or left.
- On the HB5N welding is now only necessary when adjusting the turntable angle on trucks with short wheel base.
- The mounting is compatible with most frame types.
- The main advantage of the grader blade is that it is easier to attach. This reduces assembly time and allows it to be mounted on trucks with a short wheel base and in combination with a retarder.
- New hydraulics with pilot-controlled check valves for grader blade extension.
- Shock valves protect the grader blade from overload.
- New control system, see separate product information sheet MC2.

## Specifications

Grader blades		HB3N
Max. operating width, 30°	mm	3,030
Min. operating width, 30°	mm	2,450
Cutter extension, right	mm	380
Cutter extension, left	mm	380
Blade angle relative to frame	°	25–30
Rotatable, left/right	°	–
Inclination adjustment/banking	°	± 9
Cutting angle	°	90
Blade weight incl. frame mounting excl. hydraulics	kg	570

Grader blades		HB5N
Rotation, right	°	25
Rotation, left	°	20
Max. operating width, 25°	mm	3,180
Min. operating width, 25°	mm	2,500
Cutter extension, right	mm	380
Cutter extension, left	mm	380
Blade angle relative to frame	°	–20–+25
Rotatable, left/right	°	20
Inclination adjustment/banking	°	± 9
Cutting angle	°	90
Blade weight incl. frame mounting excl. hydraulics	kg	880





With its "Non Accident Generation" Mählers is increasing focus on safety at work. Every product from Mählers that is branded "Non Accident Generation" sets a new safety standard and is designed and constructed to create a safer workplace. Read more about our work at:

[www.nonaccidentgeneration.com](http://www.nonaccidentgeneration.com)

## TOOL SYSTEMS FOR INCREASED PROFITABILITY

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