

» SAMSON AGRO
NEW 36 METER DRIP HOSE BOOM
SHB4



- growing together

SAMSON AGROs new **SHB4/36m boom**

SAMSON AGRO's new SHB4/36m boom, as the name suggests, is built with four distributors and has a working width up to 36 metres. The SAMSON AGRO engineers have basically emphasised the importance of optimising slurry application and reducing mechanical complexity.

Brand new, simple construction

This is a completely new boom construction, offering plenty of innovation. The four SAMSON AGRO slurry distributors reduce the length of the slurry hoses significantly. The feeder hoses for the distributors are routed inside the boom construction. The slurry hoses are secured in the hose guide, ensuring they line up neatly in a row without buckling up and down. This ensures a rapid emptying of the hoses, and that the hoses run completely empty. A new method has been employed to stop dripping from the slurry hoses. The hoses can only be rotated so they are pointing upwards.

The SHB4/36m boom has a simple central frame with no moving parts. The tanker lift is used to adjust the working height of the boom. This means that there are far fewer parts in the construction than previously. It also makes it possible to install the boom very close to the slurry tanker, thereby reducing problems with negative towing eye pressure when the boom is in the working position.

Adjustment both above and below level

Quite uniquely, the boom's side wings can be adjusted both above and below level in relation to the central frame. This is made possible because the two large side wings are hinged at the bottom and are held by a large cylinder at the top. So you can adjust the boom at any time so the slurry hoses follow the terrain and remain in contact with the soil. This reduces volatilisation as much as possible, because the slurry is applied in narrow grooves on the soil surface and with the least possible contact with the air. If the slurry hoses are not in contact with the soil, the slurry will splash over a larger soil surface, causing increased volatilisation.

The side wings are folded in two layers using a planetary gear driven by an oil motor. This provides fully controlled rotation of the pivot joint and minimises the need to lubricate moving parts. A new hydraulic system allows the oil motor to cut out upon impact to avoid damage to the boom.

STILL UNDER DEVELOPMENT

SHB4/36m is a brand new product which is still under development. The new boom, however, is expected to be ready to go on sale in the very near future.

SHB4/36m offers plenty of innovation and ground breaking technology. New features will be added all the time, so follow us in the media and on the Samson AGRO website to hear about the new functions and options as they are released.

The first prototypes have been tested in 2016, and the 0-series will be tested in the spring of 2017.



The new drip stop rotates the hoses so they point upwards.



There are fewer "hose metres" in the new SHB4/36m drip hose boom.



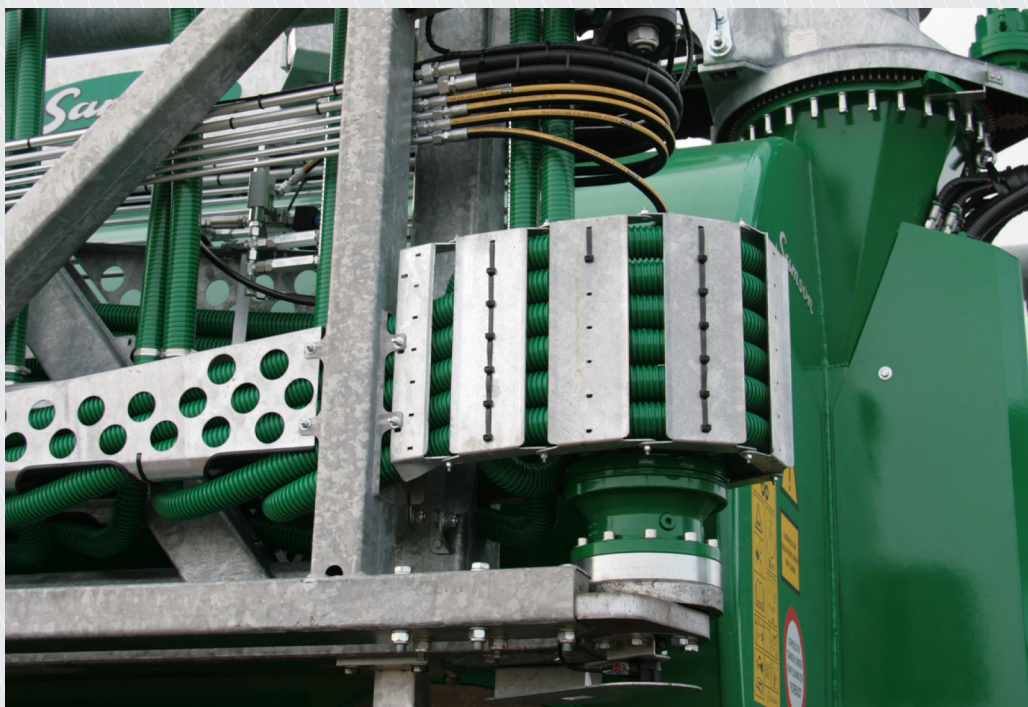
The boom has a simple central frame with no moving parts.



The side wings of the SHB4/36m boom can be adjusted both above and below level in relation to the central frame.



The two large side wings are hinged at the bottom and are held by a large cylinder at the top.



The side wings are folded in two layers using a planetary gear driven by an oil motor.

» VERY COMPACT TRANSPORT POSITION

The boom is less than 3.3 metres wide in the transport position – even on the very large slurry tankers with a 2.2 metre diameter tank – as the slurry hoses are located inside the boom and the boom is folded in only two layers for road transport. It never exceeds 4.0 metres in height. So despite the size, the new boom does not take up much room on the road.

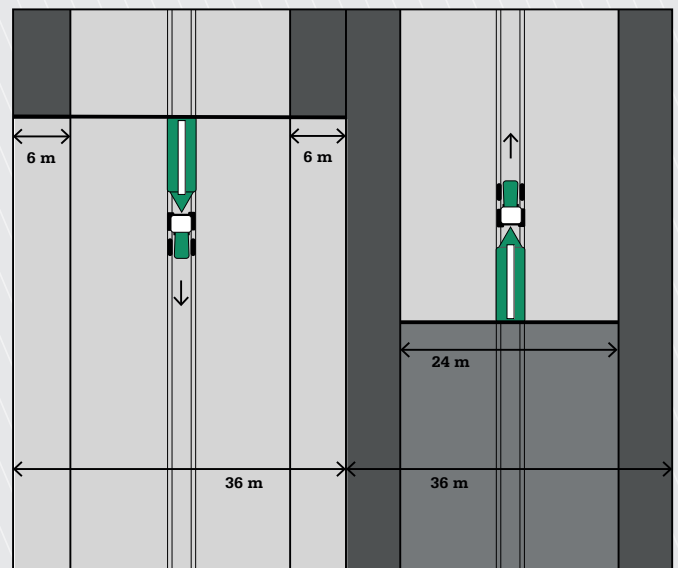
The new boom from SAMSON AGRO never exceeds a transport width of 3.3 metres.



» DUAL PASS APPLICATION

With the new SHB4/36m boom, SAMSON AGRO is introducing a brand new standard concept for the application of slurry. The so-called Dual Pass Application (DPA) concept. DPA allows the driver to adjust the working width so the boom only applies slurry to the outer 6 metres on each side, for example. This is then topped up with another pass which applies slurry on the middle 24 metres of the boom, increasing the application range per load. This can be an advantage in very hilly terrain where you want to avoid too many stops and starts up steep slopes. This method of applying slurry also reduces mess in the tracks, because there are fewer stops and starts which can often create more mess.

DPA also allows several slurry tankers to work together to achieve a high application capacity on a 36-metre track. Combining one or two tankers with 24-metre booms together with a SHB4/36m boom will achieve an extremely high capacity on large farms that use 36-metre tracks. This means that many contractors can settle for one SHB4/36m boom and still be able to ensure that large quantities of slurry will be applied at exactly the right time. The SHB4/36m boom can apply slurry on the outer 6 metres which can then be topped up by the 24-metre booms.

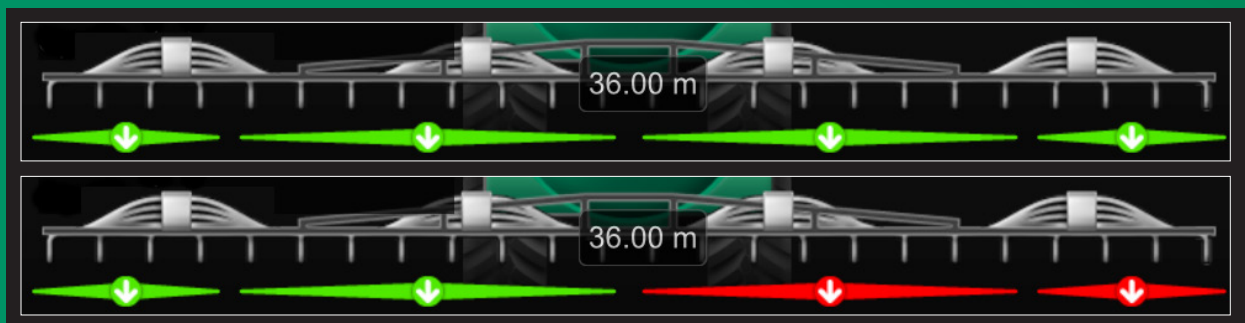


First pass: Slurry is applied on the outer 6 metres.

Second pass: Slurry is applied on the inner 24 metres.

SLURRY DISTRIBUTION AND SECTIONAL CLOSING OFF

The slurry is distributed via four vertical SAMSON distributors, which cover 6 m, 12 m, 12 m and 6 m respectively – equivalent to 36 m in total. This provides a rapid start/stop, since there is less than 400 m of slurry hose on an SHB4/36 m boom. The four distributors are equipped with their own knife gate valve, so sectional closing off can be carried out on the four 6 m, 12 m, 12 m and 6 m sections. The control system automatically sets the amount of applied slurry for the new working width when a section is closed off or opened up. The improved sectional closing off option reduces any overlap of slurry in furrows in the terrain. The risk of crop lodging is thus reduced.



Sectional closing off can be executed for each distributor. When the sections are closed off, the amount of slurry is adjusted, so that the amount of applied slurry remains constant.

» CONTROL AND ADJUSTMENT

The boom is operated via the SAMSON AGRO SlurryMaster8000 control system, so together the slurry tanker and the boom ensure that the slurry is applied with high precision. With SAMSON solutions, the boom, slurry tanker and control system work 100% together. The driver can thus easily control all of the functions via the SlurryMaster8000 control system.



The boom is equipped with its own hydraulic system. This means there are fewer hydraulic hoses between the tanker and the boom.

The boom and its functions are continuously monitored via sensors – including angle gauges – to minimise faulty operation when folding and when driving over terrain. The sensors ensure that regardless of the working width, the boom will never exceed the selected working width during folding. So there is no problem folding the boom along a road or windbreak.



Det er meget nemt at betjene den nye bom via SlurryMaster8000 styresystemet. Man kan også se, hvilke fordelere, der er i brug.

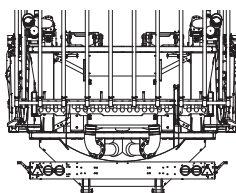
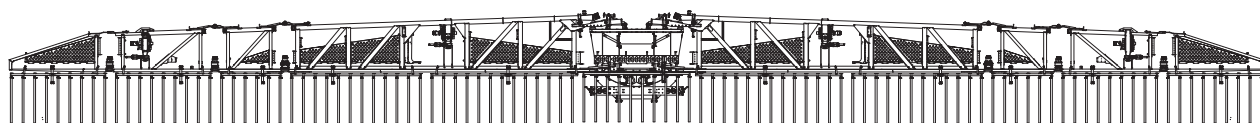
» WORKING ON A FULLY AUTOMATIC ADJUSTMENT OF THE SIDE WINGS

The brand new boom construction is also being prepared in other ways for future slurry application. For example, the development engineers at SAMSON AGRO are working on even better adjustment of the boom. By using ultrasonic sensors on the boom it can be used to adjust the height of the boom automatically according to the terrain. This ensures that the slurry is always applied correctly and does not splash over the soil or crops, causing increased volatilisation. Such a feature will make the driver's daily task of driving with the boom much easier. It will also minimise the risk of damage to the boom.



The height of the boom is monitored and adjusted via three ultrasonic sensors.

>> TECHNICAL DATA



Working width		20,24,30,36m	20,36m	24,30,36m	24,36m
Number of distributors	pcs.	4	4	4	4
Total width transportation position - folded together	m	<3,3	<3,3	<3,3	<3,3
Transportation height	m	<4	<4	<4	<4
Distance between hoses	cm	33,3	33,3	33,3	33,3
Number of slurry hoses	pcs.	108	108	108	108
Total distance of slurry hoses	m	400	400	400	400
Anti Drip System		Ja	Ja	Ja	Ja
Number of slidevalves for emptying the distributors	pcs.	4	4	4	4
Drip hose diameter	mm	47	47	47	47
Slurry hose diameter	mm	43	43	43	43
Number of hydraulic foldable sections	pcs.	3	1	2	1



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