The subsoiler
Onyx

LEMKEN THE AGROVISION COMPANY

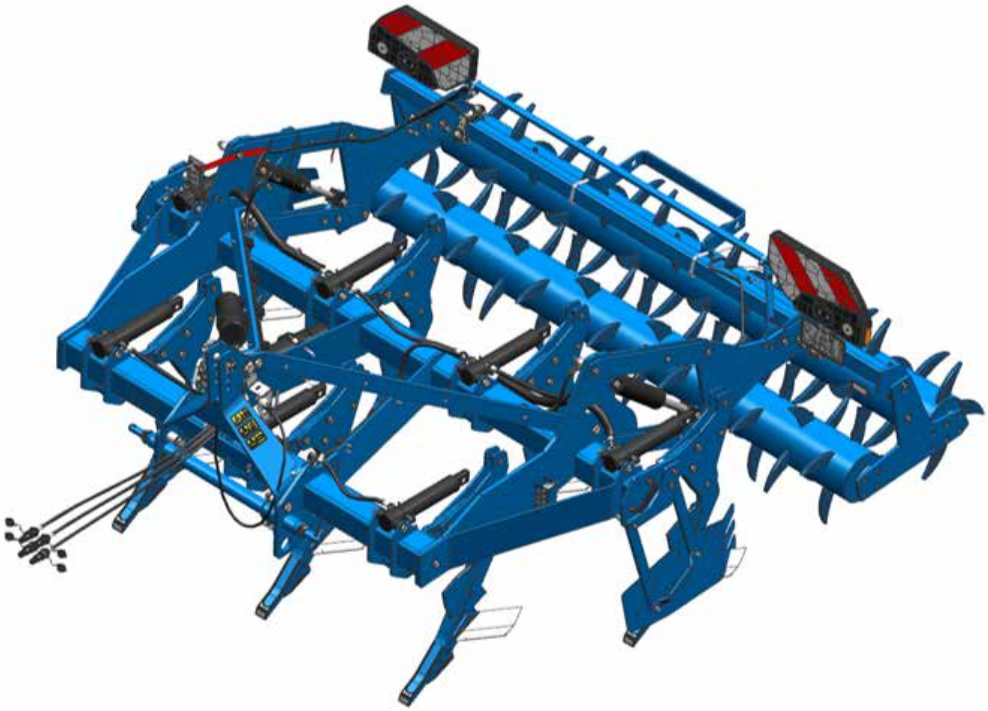
Highly robust construction

Test of strength

Thanks to its **simple and very robust construction**, the Onyx can handle even the most challenging requirements. At maximum working depth, it requires a tractor output of 130 hp per metre of working width.

Room to move

Thanks to its underframe clearance of 90 cm, beam spacing of 84 cm and line distance of 42.5 cm, this subsoiler is **highly resistant to blockages**.



Deeply effective

To loosen deep compaction, the Onyx is equipped with mixing or loosening shares, which allow a maximum working depth of 60 cm. This subsoiler is fitted with shear bolts as standard to protect the frame.

Solid pressure

Two different roller types – a double spiked roller or a tube bar roller – are available for **levelling after deep loosening** to match the range of applications of the Onyx subsoiler.

Working to the **maximum**

The Onyx subsoiler is a true **specialist for demanding tillage tasks** – robust and cleverly designed for professional agricultural use. With working widths of 3 and 4 metres in a rigid design and a power requirement of 65 to 130 hp per metre of working width, the Onyx offers maximum flexibility for a wide range of farm sizes. This implement meets the requirements placed on it optimally thanks to its **operational reliability** when used with various size tractors in different conditions.

Frame design

A special feature of the Onyx is its exceptionally large 90 cm underframe clearance, which gives this tined implement great flexibility of use. Its "net underframe clearance" is particularly notable during field use: Even at maximum working depth, there is **sufficient clearance between the moving soil and the base frame** when the Onyx is working in the soil.

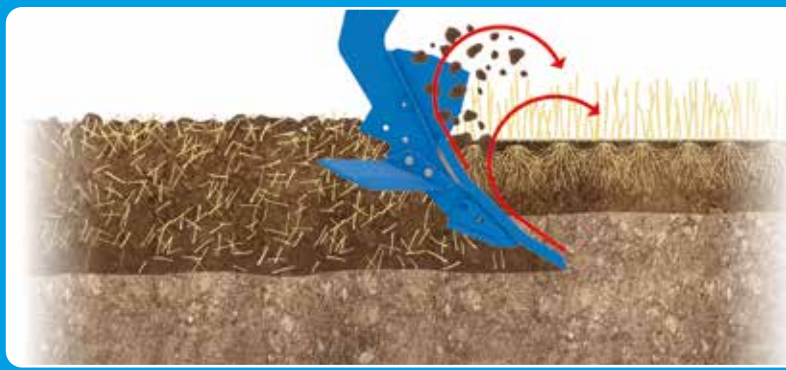
The frame structure is not assembled, but carefully welded together. This increases the implement's **stability and durability** – decisive factors for **reliable continuous use**. The frame also features a particularly clear design with two beams spaced 84 cm apart, ensuring easy access for inspection and maintenance.

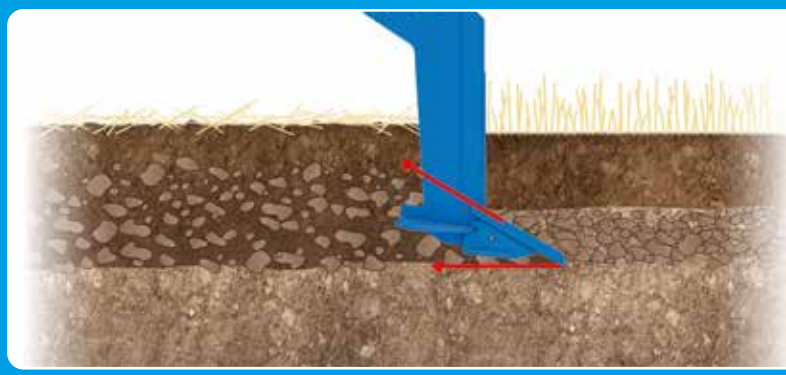
Impact

The Onyx impresses not only with its design, but also with its **versatility in the field**. It can be used for **medium-deep loosening of the soil profile with intensive mixing and subsequent levelling**, making it ideal for improving the soil structure. For this purpose, the Onyx is equipped with OM shares (= Onyx Mix / mixing shares).

Alternatively, the subsoiler can also be fitted with OL shares (= Onyx Loosening / loosening shares). These shares lift the soil, creating cracks due to the lifting action and the weight of the soil itself. This **breaks up compacted layers such as plough pans** and **improves water infiltration** through the resulting micro-cracks.

The Onyx is a powerful tool that opens up new perspectives in conservation tillage thanks to its range of tillage effects. It is genuinely groundbreaking – powerful and built for the most stringent demands.



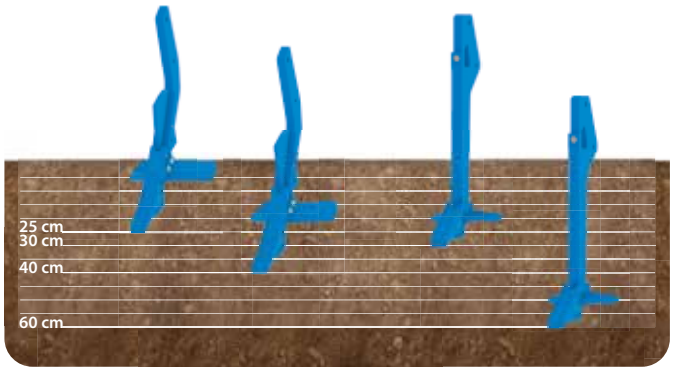


Precise loosening and **effective mixing**

The centrepiece of the Onyx subsoiler is its tine section with the share system. The Onyx MR/300 has seven shares with a line spacing of 42.5 cm, while the Onyx MR/400 has nine shares in the same symmetrical arrangement to **prevent side draught**. This configuration ensures thorough **tillage across the entire surface** with a **uniform loosening or mixing effect**, even in variable soil conditions. Thanks to its share shape, it reliably delivers a **high penetration force**, making it particularly effective in dry and compacted soils.

Shares

The Onyx can be fitted with either 60 mm wide OM (= Onyx Mix) mixing shares or OL (= Onyx Loosening) loosening shares. The two shares are shaped differently to achieve **different tillage effects**. To ensure they can withstand wear-intensive operating conditions, the shares come with hard facing as standard or are optionally available with carbide coating.



The loosening share (OL) and its stalk guard – optionally with a 25 cm wide wing – are mounted on a straight stalk and designed for deep loosening. This share is preferably used at working depths between 40 and 60 cm to **break up soil compaction without moving a lot of soil**.

The mixing share (OM) is mounted on a curved stalk with guide plate (blade) – optionally with 33 cm wide wings – and designed to **move and mix the soil**. It can be used at working depths between 25 and 40 cm. Depending on the working depth, the optional wings can be fitted in two different positions.

Working depth

The hydraulic depth adjustment can be conveniently controlled from the tractor, ensuring precise control of the working depth – ideal for **variable operating conditions**.

Overload protection

Two overload protection options are available to protect the machine:

- double-cut shear bolts (standard)
- hydraulic overload cylinders (optional) with an infinitely adjustable trigger force ranging from 700 to 1,400 kg.

Systematic levelling

In theory, the subsoiler can be used without a roller or with any roller from the LEMKEN roller range. This allows the **right equipment to be configured depending on the site conditions and tillage objectives**. However, for optimum **reconsolidation of the loosened soil**, LEMKEN offers and recommends two rollers for the Onyx, which can be factory-fitted: the DSW 580 double spiked roller or the RSW 600 tube bar roller.

Quick-change roller system

The quick-change roller system enables the **rollers to be changed quickly**, allowing users to respond flexibly to changing soil and operating conditions. Changing rollers takes little time or effort.
Another technical feature is the parallel roller guidance system, which uses two links. A hydraulic cylinder for depth adjustment is located between the two links. The system ensures that the roller always remains parallel to the ground, regardless of the set working depth. This results in **reliably even levelling across the entire working width**, as the roller pressure remains constant even at different depth settings.

Roller adjustment

The impact can be optimised further, particularly when using the double spiked roller, which stands out thanks to its excellent drive properties: The inclination of the roller can be adjusted. The roller angle is adjusted using a hole guide to improve the **crumbling effect**. In extreme conditions, the front roller can be set to work harder, while the rear roller can be set to produce a **finer crumble and reconsolidation**. In other situations, it can be useful to reduce the pressure on the front roller and increase the pressure on the rear roller instead. The distance between the two roller segments can also be adjusted.

Customise

Edge plate

The mechanically telescoping edge plate ensures that the **soil is not moved outside the working width** of the machine, but remains in the area tilled by the Onyx, where it can be compacted and levelled by the roller. The side plate adjustment depends on the selected shares and the working depth, but is very straightforward.

Share wings

Both the OM and OL shares can be fitted with wings. This enables additional working effects, such as **cutting, mixing and lifting, to be achieved beyond the share width**. If no wings are fitted to the shares, the **soil structure is broken up at the share points**. Wings produce a **broader, more homogeneous loosening effect** and can improve the **incorporation of organic matter**.

Hydraulic overload protection

The hydraulic overload protection system provides **maximum protection** for the machine and tines, for example, when the tools encounter stones or extremely hard compaction. The trigger force can be flexibly adjusted. As soon as the obstacle has been overcome, the hydraulic cylinders push the tine back into its working position. Shear bolts as standard are used in addition to the hydraulic overload protection to secure the frame against overload. Even if the screws need to be replaced in an extreme case, the machine's operational readiness can be quickly restored.

MultiHub

The MultiHub catch crop and granule spreader can be mounted centrally on the Onyx frame to combine several work steps and **reduce the number of passes**. The MultiHub is mounted on the Onyx together with a lateral filling platform. There are splash plates located in front of the roller for seed distribution.

„Thanks to the various coulter options, the Onyx can be used for different cultivation objectives – and adapted to the respective soil conditions."

Christiane Fuchs, farmer and agricultural influencer from Worms
Jochen Buß, farmer and consultant from Odenbach

Christiane Fuchs works on her parents' family farm, specialising in special crops. The prolonged dry spells in early summer are particularly hard on potatoes and onions. The subsoiler is used on vegetable fields to a working depth of 60 cm. This removes compaction below the plough horizon, improves soil aeration and promotes root growth.

With a complex crop rotation and gentle soil cultivation, Jochen Buß keeps sustainability in mind. Sloping terrain means that the farmer has to think carefully about his farming methods. The natural soil structure should be preserved, but optimised in a targeted manner. The subsoiler should help him to reduce soil erosion and at the same time loosen the soil slightly – for better water flow and nutrient dynamics.

Specifications

Onyx	MR/300	MR/400
Working width [mm]	2,994	3,994
Length [mm] (with DSW/RSW)	2,966	2,966
Working depth [cm]	25 - 60	25 - 60
Line distance [cm]	42.5	42.5
Beam spacing [cm]	84	84
Frame height [cm]	90	90
Weight [kg]	2,000 - 2,240	2,500 - 2,850
Power requirement [kW/hp]	143/195/298/400	191/260/395/530
Attachment	Kat. 3 / 4N; opt. Quick-Hitch Kat. 4	Kat. 3 / 4N; opt. Quick-Hitch Kat. 4

A WELL-ROUNDED SOLUTION.

At LEMKEN, we don't think in terms of isolated work steps – instead we look at the full cycle including all facets of agricultural engineering. The result is comprehensive solutions that intermesh perfectly. For you, this means: high-quality, future-oriented, efficient technology for an agriculture that is both profitable and sustainable.

iQ blue

LEMKEN GmbH & Co. KG
Weseler Strasse 5
46519 Alpen, Germany
Tel. +49 2802 81-0
Fax +49 2802 81-220
info@lemken.com

Find out more at
lemken.com

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