



Full speed ahead

Ematec AG never stands still and 2023 is no exception, with the leading distributor of lifting equipment for the single-blade assembly of rotor blades stepping up its game once again. At Husum Wind it presents the new generation of the RBC-D50.1 to the trade public.

'It's great that we were able to add to the RBC-D50.1 in time for the trade fair and inform visitors about the new generation. After all, Husum Wind is one of the most important theme fairs par excellence for the renewable energy sector,' says Julian Eberhard, Design Manager at ematec.

For the RBC-D50.1, Eberhard and his team have tweaked the design again and made some changes. 'As a result, we have managed to make the crosshead about 700 kilograms lighter. This allows us to extend the technological lead a bit further,' says Eberhard. In addition, ematec has increased the service-friendliness of the lifting beam, as there is now only one central hydraulic tank for the units. The radio remote control with a new 5.5 inch colour display has also been upgraded.

Unique in flexibility

As the current order situation shows, ematec's RBC-D yokes are among the most popular rotor blade clamps on the market. They have a particularly unique selling point because the RBC-D from ematec is still the only yoke suitable for assembling and disassembling all rotor blades on the market. The decisive factor here is the automatic stabilisation of the complete unit up to a tilt angle of ± 30 degrees.

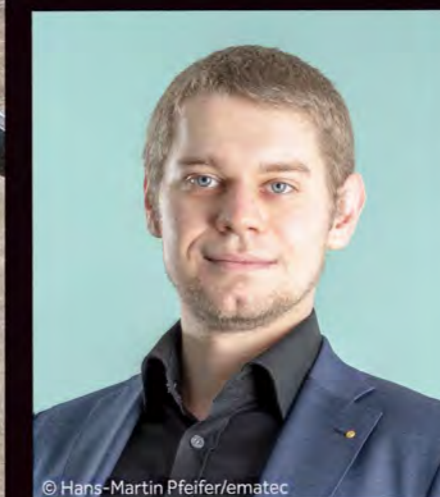
This means the rotor blades can always be held securely, even if not 100% attached to the center of gravity. With other yokes, uncontrolled movements could occur in such a case. Because the double version of the RBC-D is equipped with adaptive grippers at the bottom and at the top, the rotor blades are held firmly in the clamp grip even at inclinations of up to ± 30 degrees so that they cannot slip.

High demand

'The easy handling, high flexibility and of course, the high level of safety have ensured that a whole range of wind turbine manufacturers want to rely on our innovative technology. We are naturally pleased about this,' says ematec CEO Manfred Eberhard. Enercon alone, the largest German wind turbine manufacturer, has already ordered 24 RBC-D yokes in various sizes, and many are now in use worldwide.

Excellent manipulation

A significant advantage of the ematec yokes in practice is that they harmonise very well with manipulation systems such as the APS from Seasight Solutions, a multifunctional tool for positioning and controlling hoists in the air. 'Remote manipulation eliminates the need for a manual tagline in single blade



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Manfred Eberhard



© Hans-Martin Pfeifer/ematec

Julian Eberhard



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The RBC-D50 rotor blade clamp from ematec in Canada

installation, making installation much more space-efficient.

No forest areas have to be sacrificed on the ground. This saves time and money, of course, and also protects the environment,' explains Manfred Eberhard.

Always in the center of gravity

With the RBC-D yokes, operators are always safe during installation because it always finds the exact center of gravity individually. Two counterweights on the two truss wings automatically adjust to the center of gravity, with and without the rotor blade. This means that even when the blade is detached from the hub, no uncontrolled movements can damage the blade or torpedo the handling process. Due to the round arch on the crossbar, the RBC-D always remains perfectly in the center of gravity even when tilting up to ± 30 degrees. The same applies when pitching the blade to a maximum of ± 8 degrees. An uncontrolled movement of the unit when tilting or pitching is thus excluded.

The all-round solution for service

The RBC-D line is not only the first choice for installing new wind turbines, but also for maintenance and servicing. 'No matter which turbines on a wind farm are equipped with our RBC-D, all of them can be dismantled and serviced, completely independent of the blade manufacturer. No other truss manufacturer offers this flexibility,' says Manfred Eberhard.

Thanks to the adaptive blade pick-up, the RBC-D automatically adjusts individually to all rotor blades and can handle all blade types, up to a weight of 50 tonnes and a length of between 45 and 110 metres.

Set-up times are eliminated

On the construction site, the RBC yokes impress with their unrivaled readiness for use. The ematec innovations automatically move into their deployment position, and the attachment to the rotor blade also takes place in record time. The RBC yokes need less than 20 minutes for these two steps. 'This is a pure process optimisation and accelerates the processes immensely' says Julian Eberhard.

The operators on the construction site have long been convinced, but controllers who look at the life cycle costs of investments are too. 'With our yokes, we are talking about a service life of 20 years or longer. Because the RBC-D yokes are not limited to certain blade types, new generations of rotor blades can be mounted at any time. Without retrofitting or even replacing the crossbeam. This investment security is unique,' explains Julian Eberhard.

Investment at the site

The high demand and good capacity utilisation at the Memmingerberg production site in southern Germany have prompted ematec to expand its manufacturing capacities. The company has already

About the RBC-D yokes from ematec

The Green Line variants of the RBC yokes are powered by high-performance rechargeable batteries designed for a working time of 16 hours at temperatures down to -20°C . The battery operation is designed with double redundancy.

Thanks to ematec's Green Line technology, wind turbine manufacturers bypass the more stringent Euro 5 and USA EPA Tier 4 final emissions regulations that have applied to combustion engines since 1 January 2019.

In addition, the brand has deliberately kept the electric motor below 48 volts, which means it can also be used in the USA without any problems and meets the requirements of Underwriters Laboratories (UL).

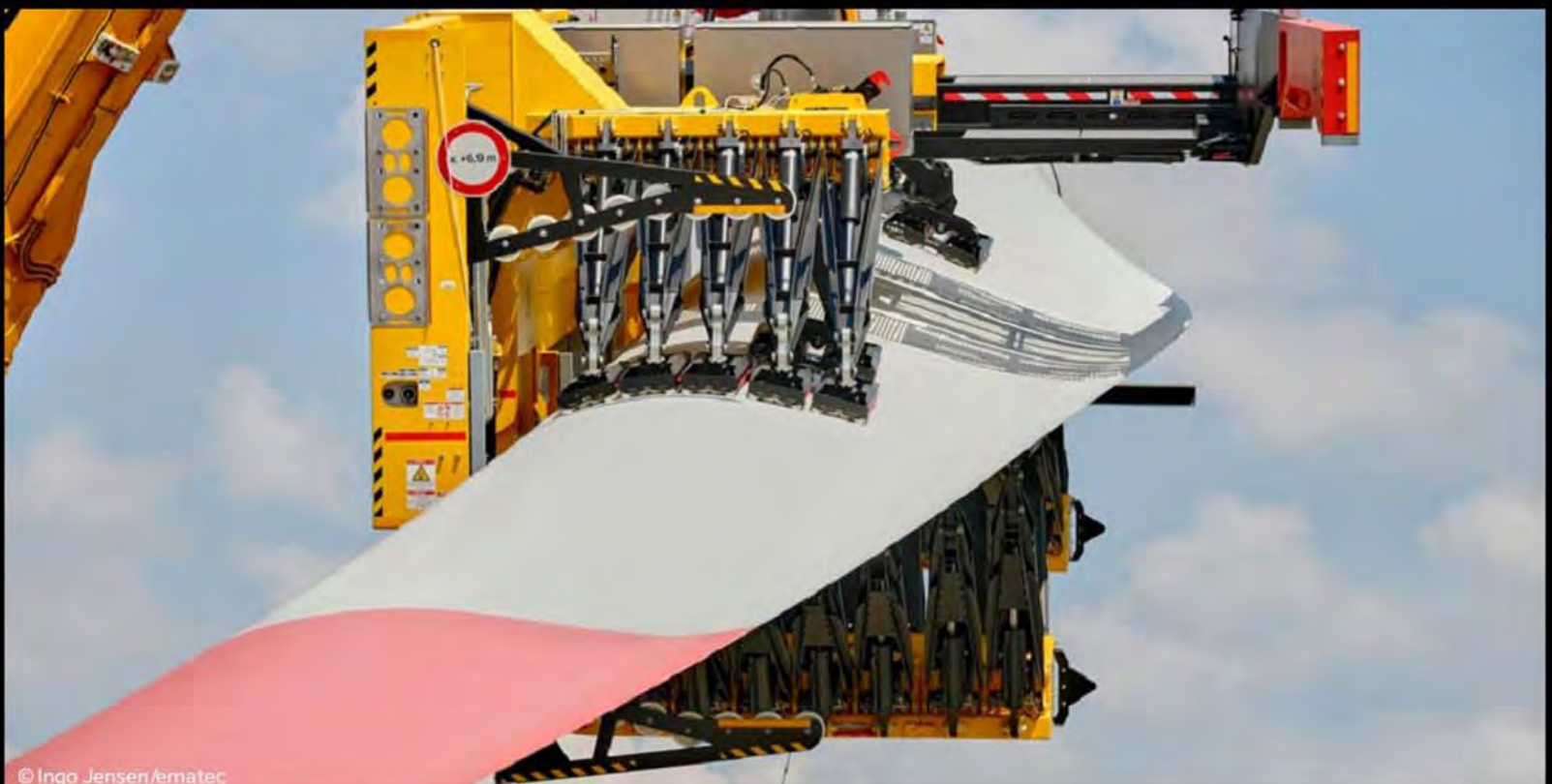
With a slope height of just about 3.5 metres, the RBC series makes crane management much easier.

This is a great advantage in practice, especially concerning the constantly increasing hub heights of wind turbines, as it can prevent price jumps for another crane class in some projects.



© Julian Eberhard/ematec

The RBC-D50 yoke from ematec is in use worldwide



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Proven in practice: wind turbine manufacturer Enercon relies on the yokes of the RBC-D series

expanded the factory area by another 1,700 m² and has access to further production facilities and an additional dry warehouse.

Great interest is expected in Husum

'We expect a similarly good response at Husum Wind as at Windenergy last year in Hamburg. We were overrun there because everyone wanted to learn about our unique technology. If the run in Husum is similarly big, then we will need the new capacities in

production,' says Manfred Eberhard. All the more so because ematec is known for its high vertical range of manufacture and, as far as possible, produces all components in-house. To this end, the company is constantly investing in new equipment, such as a six-axis machining center in the machining department.

Currently, the business is more successful than ever before. In 2022, it celebrated its 25th anniversary and its best business year

since it was founded in 1997. 'I am all the more pleased that we have been able to carry this momentum into 2023 and that our order books are already full until 2025. The trust of our international customers makes me very proud. So it was clear that we would invest in our production to continue to meet the high demands of the leading wind turbine manufacturers in the future,' says Manfred Eberhard.

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