

Everything you need in a nutshell: Our pitch systems.



Pitch systems



Switch and
control cabinets



Service



Everything included: Our service portfolio.

17,500 active pitch systems worldwide. This is the current number of our development projects for the WTGs of many well-known manufacturers. These include those in multi-megawatt class WTGs with AC and DC drives, converters, controllers, axis and central controller cabinets and emergency power supplies. And the progress continues with our latest MPC converter series.

Standard system or individual consultation.

You can choose between our standard systems or individual solutions. All you have to do is ask: We would be happy to advise you in order to supply you with the perfect system solution.

Seamless production.

We prefer to rely on ourselves, more specifically, on the 400 employees who develop, construct, manufacture and test each system. The result is: All components are perfectly matched to one another.



MULTI Pitch CONTROLLER (MPC):

- Reliable in all environmental conditions
- AC or DC operation
- Designed for the demanding operation of multimegawatt class WTGs



Always individual:

Five steps to a first-class result.



No sooner said than done: Our safety philosophy.

Triple redundancy is simply the safest.

Each of our pitch systems is designed so that the safety functions of each axis operate independently of each other. That is why each axis has:

- Independent motor control
- Independent emergency power supply
- Independent switch cabinets and cabling

Safety 17,500 times over.

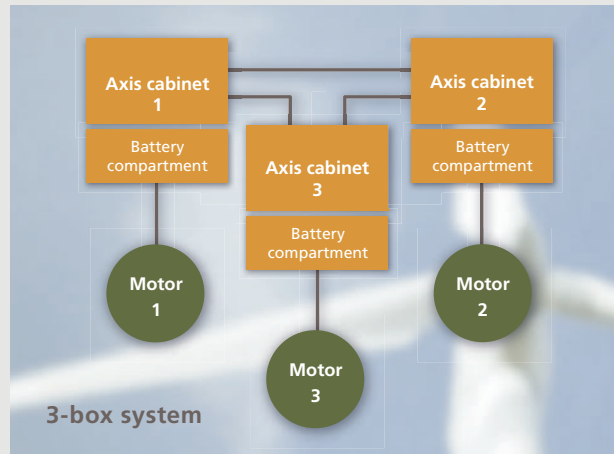
With 17,500 active pitch systems worldwide, we have already put our safety standards successfully into practice:

- The pitch system must function as a primary brake without any compromises.
- The turbine must be able to be stopped safely under any operating conditions.
- Minimum requirement: Turning a blade to the feathering position to achieve a safe minimum speed (Fail-safe)



Individual system solutions: We are setting the standards.

We have developed modular system variants to ensure that your pitch system can be tailored to your WTGs. Our cabinets are perfectly adapted to the installation space and the mechanical requirements inside the hub. Giving us the flexibility to integrate maximum efficiency and reliability in each WTG. Our basic package is the 3/6-Box-System. In addition, systems with 4 and 7 boxes are available as individual solutions.



Possible system configurations (3, 4, 6 and 7 cabinets):

- 3 = 3 x axis cabinet
- 4 = 3 x axis cabinet
1 x central controller cabinet
- 6 = 3 x axis cabinet
3 x battery cabinet
- 7 = 3 x axis cabinet
3 x battery cabinet
1 x central controller cabinet

Increased wind harvest: Our climate packages.



HCV hot weather package.

While the first fan conducts fresh air into the box, a second fan ensures that the hot air is conducted away (activation temperature freely adjustable). Operation of the WTG from -10 °C to +50 °C is thereby guaranteed.

CCV cold weather package.

Heaters, the insulation of the cabinets and warm-up control via a PT100 relay keep your WTG fully operational from -30 °C to +45 °C. The PT100 relay also remains fully functional in the event of a grid outage and below -40 °C.

Everything stays better: Our services.

i A solution for everything. An overview of our services:

- System consultation
- System optimization
- Commissioning service
- Spare parts supply

We analyze your requirements during the system consultation and make recommendations that may not always match your initial expectations. But which result in a perfect solution. System optimizations, for example, result from the analysis of prototypes and field tests. Our three-step installation service also ensures

a perfect start so that your WTG runs optimally from the very beginning. From the initial functional run at our end and local follow-up test at your end to the finetuning at the final location of the WTG. Also unequivocal: We guarantee spare parts for the systems supplied by us over the entire life cycle of your WTG.



Our quality at a glance.

Our people.

- 400 highly motivated employees (including more than 50 developers)

Our pitch products.

- Complete pitch systems with: AC and DC drives, converters, controllers, axis and central controller cabinets, emergency power supply, climate packages

Our services.

- Consulting, development, construction, production, QM & system tests, services

Our contact information.

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