

Yaw & Pitch Drives for WTG

风力发电机组
的偏航和变桨
减速器

Comer Industries is a global leader in the design and production of advanced engineering systems and mechatronic solutions for power transmissions, supplied to major manufacturers of agricultural equipment, industrial machinery and of renewable energy applications worldwide.

Founded in 1970, the company has progressively enlarged its offer of transmissions for farm machinery with mechatronic products, to ensure customers added value and competitive advantages.

Comer Industries has 6 operating units with 6 production facilities in the provinces of Reggio Emilia, Mantua and Matera, and in Shaoxing, China. Comer Industries is a force in the global marketplace and has foreign subsidiaries in France, Germany, United Kingdom, United States and China.

In 2003 the company adopted Lean Thinking in its organization and in 2006 integrated it with Six Sigma tools in order to improve overall efficiency.

Comer Industries Quality Management System is certified according to ISO 9001:2000 with reference to all operating units. The Planetary Drives operating unit in Cavriago (RE) obtained UNI EN ISO 14001:2004 environmental certification in 2006.

In 2009, Comer Industries adopted the Comer Production System (CPS), an integrated system of methodologies and standards including an intensive program of Kaizen workshops encouraging people to support continuous improvement at all corporate levels and in all areas.

“We meet our customers’ demand for partnership, innovation capability and know-how.”



Cavriago
plant



Matera
plant



意大利康迈尔工业集团公司是一家设计和制造先进工程系统和传动机电一体化解决方案的全球领先企业，供应农业设备、工业机械和全球可再生能源应用设备的主要制造商。

公司成立于1970年，通过机电一体化产品在农用机器传动上的应用不断扩展其产品，为客户增加了产品的附加值，提高了客户的竞争优势。

意大利康迈尔工业集团公司拥有6个运营单位，在意大利的雷焦艾米利亚省、曼图亚省、马泰拉省和中国的绍兴市拥有6个生产设施。

意大利康迈尔工业集团公司在全球市场力量雄厚，在法国、德国、英国、美国和中国均设有国外子公司。

公司于2003年在其组织中采用Lean Thinking,并于2006年应用6 Sigma工具对其进行了完善，以全面提升效率。

康迈尔工业集团的质量管理系统获得了ISO 9001:2000认证，涵盖所有生产单位。位于Cavriago (RE)的行星减速器生产单位在2006年获得了UNI EN ISO 14001:2004环境认证。

2009年，意大利康迈尔工业集团公司采取了康迈尔生产体系(Comer Production System, 简称CPS), 这是一个方法和标准的综合系统，包括一个密集的“经营法的改善”讲习班课程，鼓励人们支持在所有企业层次以及各个领域的不断改善。

“我们满足我们客户
合作、革新能力与
know-how 的要求。”



Reggiolo
Mechatronics
Research Center



Shaoxing
plant

Inline version
直线形式



Angular version
直角形式



Advantages 优势

- Full commitment to meet Customer's specification through development of tailored solutions in synergy and co-engineering, to ensure better sizing of components and easier installation on the machine
- Components' calculations compliance to the latest International Standards and certification bodies requirements
- Continuous product development experimentation and testing in Comer Industries' Mechatronics Research Center
- Wide and versatile range of planetary drives for nacelles rotation and orientation (yaw drive) as well as blades positioning (pitch drive) are engineered to meet Customer's requirements for wind generators up to 10 MW and more
- Technical features allowing extended maintenance interval and reduced downtime
- 我们承诺通过与客户协作开发和共同设计，提供满足其技术规格的量身定制的解决方案，以确保产品的选型准确并安装简便
- 每台齿轮箱的静态和动态数据的计算均符合国际标准
- 康迈尔工业集团的机电一体化研究中心持续的产品开发试验与检验
- 全系列、多功能的偏航、变桨齿轮箱，广泛应用于风力发电机的机舱回转和定位以及叶片的定位，能满足10MW及以上风机的要求
- 可以延长保养间隔时间和减少停机时间的技术特性

"We are at the forefront of technology innovation, providing our Customers with a distinct competitive advantage"

"我们位于技术更新的前沿，为我们的客户提供特别的竞争优势"

Slewing Drives - 回转减速器

Planetary Gear Drive 行星齿轮减速器	i 速比	Nominal torque [Nm] 额定扭矩 [Nm]	Static torque [Nm] 最大静态扭矩 [Nm]
PG 700	100 - 300	7000	20000
PG 950	100 - 300	10000	22000
PG 1600	100 - 2500	17000	45000
PG 1900	100 - 2500	19000	55000
PG 3000	100 - 2500	28000	80000
PG 3500	100 - 2500	35000	100000
PG 4200	600 - 2500	42000	120000
PG 6500	600 - 2500	70000	180000



Input Options - 输入形式

Inline version 直线型	Angular version 直角型	Combined version with worm gearbox 蜗轮蜗杆组合型

Output Options - 输出形式

LFP/E	LNP	LNPE	DSP/E

“We offer a continuous product innovation process to answer the demand for greater turbine performances and control”.

Comer Industries combines application know-how, cutting edge technology, professional competence with a strong commitment to research and ongoing improvement to grant the world class in power transmission solutions to global turbine manufacturers.

Our range of planetary drives for nacelles rotation and orientation (yaw drive) as well as blades positioning (pitch drive) is suitable for wind generators up to 10 MW and more, in order to meet customers' requirements.

This kinematics guarantees a compact design, allowing the turbine to be installed in severe environmental conditions such as desert areas and off shores. As a result of an extensive engineering design integration, the PG1904 has benefited with a stronger, lighter weight approach with fewer parts while at the same time increasing the power to density ratio when compared to equivalent conventional sizes; moreover, higher power to density ratio is guaranteed.



“我们持续提供满足涡轮机更强劲性能和控制的工艺革新产品”

康迈尔工业集团结合know-how，专有技术的应用、信守承诺的专业能力进行研究和改进，为全球风力发电机组制造商提供世界水平的动力传动解决方案。

我们的偏航和变桨减速器可以适用于10MW及以上的风机，以满足客户的需求。

运动学设计保证产品紧凑，允许风力发电机组安装在恶劣的环境条件下，如沙漠和如沙漠地区和海上。

这一解决方案与同尺寸的单元相比，降低了轴的挠曲，改进了风力发电机组支架上载荷的分布，使零件的承载能力得到了更好的利用。

作为扩展工程设计集成的结果，PG1904型功能更强、重量更轻、部件更少，同时与同等规格的传统产品相比，功率密度比有所增加。

Manufacturing Footprint 制造足迹



- Manufacturing capabilities currently concentrated in Italy
- Shaoxing (China) plant operating since 2008
- Our Strategy: manufacturing where we can best serve our customers
- Competitive worldwide sourcing

- 制造能力目前集中在意大利
- 2008 年起，绍兴（中国）工厂开始运营
- 我们的策略：制造最佳产品以服务客户
- 竞争性全球采购

Mechatronics Research Center 机电一体化研究中心

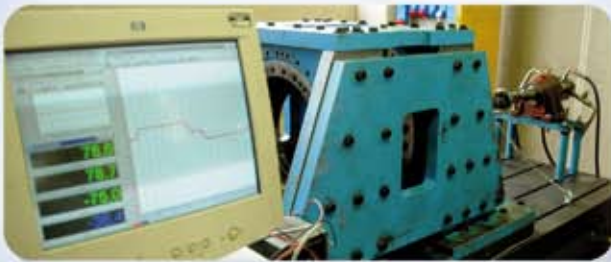
Applied research and product innovation

Comer Industries product lines are developed, tested and approved in Mechatronics Research Center in Reggiolo (RE) for applied research and product innovation.

With an indoor area of 1500 m², it operates with eleven completely soundproofed test rooms equipped with cutting edge devices and simulators to reproduce real operating conditions of transmission.

Typical tests performed concern approval for commercial components, functionality, stability, specs identification, endurance, crashing, structure and fatigue; moreover, temperature tests under load, field tests, benchmarking and new products homologation are carried out in Mechatronic Research Center.

Wind generators manufacturers can rely on our advanced engineering expertise, which allows close collaboration and total involvement of our designers from the very first development stages of our new systems, in a co-engineering relationship with our customers.



应用研究与产品革新

康迈尔工业集团的产品系列是在位于Reggiolo (RE) 的专门从事应用研究与产品革新的机电一体化研究中心进行开发、测试和批准。

研究中心室内面积为1500 m²，包括配备有尖端设备和再现真实传动工作条件的模拟器的十一间完全隔音的检测室。

涉及市场化部件的批准、功能检测、稳定性检测、规格鉴定、强度试验、破坏性试验、结构和疲劳试验等各项内容；另外负载情况下的温度测试、现场测试、基准测试和新产品认可也均由机电一体化研究中心承担。

我们可向风力发电机生产商提供我们先进的工程经验，来自我们新体系非常先进的开发平台的设计者们会与客户紧密合作，全力投入，与我们的客户建立一个合作工程关系。



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