



NEWS RELEASE

[Witt-NR-06-2022_ErgoRobot_Primus-14]

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ErgoRobot: driving a robot using muscular strength

*The WITTMANN Group takes this year's K in Düsseldorf as an opportunity to present its latest developments in a wide range of different areas. From 19 to 26 October, among other innovations, WITTMANN Technology will showcase the so called **ErgoRobot** solution driving a **Primus 14** robot using muscular strength at booth No. F23 in hall 12.*



*The adapted bike of the ErgoRobot application
and the Primus 14 robot from WITTMANN driven by it.*

With this interactive exhibit, WITTMANN is presenting an attractive highlight at the K 2022 which gives a good illustration of the energy efficiency of its products – and the resulting potential for saving resources.

This application consists of three main components: a robot, a bike used as an ergometer, and an active trade fair visitor sitting on the bike. While riding the bike, the visitor serves as the “power source” setting the robot in motion. The robot used in this case is a **Primus 14** in the standard version with an **R8** control system, an appliance normally used for pick & place applications on machines with clamping forces ranging from 50 to 150 t. The moving bike pedals drive via force transmission a servo motor mounted on the rear wheel. In the **ErgoRobot** application, this motor functions as the

robot's power supply. The electricity generated by the motor is transmitted to the robot and sets it in motion.

To make riding the bike a pleasant experience, the power supplied by the generator is fed into an interim circuit installed inside the robot's servo module, which is used exclusively for balancing the robot's fluctuating power demand – mainly during the upward and downward movements of its vertical axis. This makes it possible for the visitor to pedal the bike with a constant resistance level.

Without using a conventional tachometer, the amount of power generated at any moment is shown on a display mounted on the handlebar, together with the current speed of the robot as a percentage of its maximum speed. To enable the **Primus 14** to move at 100% of its top speed, the bike rider must generate about 150 watts of power. This is roughly the power required by an average refrigerator with freezer compartment to suit a four-person household. If more power is generated on the bike, the surplus is used to light two floor lamps placed next to it. The brightness of the lamps then depends on the amount of additional power supplied.

Apart from the “fun factor” for visitors to the WITTMANN booth derived from this arrangement, it illustrates very clearly the extremely thrifty energy consumption of the robot series from WITTMANN.

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and

chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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Düsseldorf – October 19 to 26, 2022
WITTMANN at the K: hall 12, booth F23