

Smart, Solar-Powered Trash Bin With igus® Plain Bearings Revolutionizes Waste Management

Finbin develops waste bins with maintenance-free igus plain bearings

STAMFORD, CONNECTICUT, UNITED STATES, May 31, 2023

/EINPresswire.com/ -- A clean cityscape is what many large cities around the world long for. Finbin, a Finnish company, has engineered an innovative trash receptacle to bring that dream closer. This advanced trash bin employs a solar-powered compactor that increases waste collection capacity by six times. Self-lubricating igus [plain bearings](#) incorporated into the design ensure a long service life for the bin.

Pizza boxes, coffee cups, and drink cans

European cities have long grappled with the overwhelming tide of garbage. Traditional waste receptacles are increasingly reaching their limits. In response, Finbin has developed the CitySolar [Smart Bin](#). This innovative waste bin compacts trash, increasing its holding capacity sixfold. The bin is connected to the Internet and communicates when it needs to be emptied before it reaches capacity.



Dry-running and lubrication-free igus plain bearings made of high-performance plastics ensure durable mechanics in the smart CitySolar trash bin. (Source: Finbin)

In designing the CitySolar Smart Bin, Finbin engineers incorporated igus components that

require no maintenance to increase sustainability. Therefore, dry-running and maintenance-free igus [iglide](#)® G and iglide M250 plastic plain bearings are used for the press and foot lever mechanics. Conventional metal bearings were not considered because high humidity and lubrication pose problems in everyday operations. However, iglide plain bearings from igus resist moisture, dust, and dirt.

Product testing in the igus 3,800-square-meter in-house laboratory demonstrated how wear-resistant the bearings are. In tests, the plain bearings were pivoted on a gas-nitrified St52 steel shaft with a load of 30Mpa at a speed of 0.01 meters per second. The iglide G plain bearings showed virtually no signs of wear even after 200,000 cycles. This makes them ideal for reliable, maintenance-free use in all weather conditions over many years.

Learn more about dry-running, long-lasting iglide plain bearings from igus here:
<https://www.igus.com/info/plain-plastic-bearings>

ABOUT IGUS:

igus GmbH develops and produces motion plastics. These self-lubricating, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings, and lead screw technology made of tribo-polymers, igus is the worldwide market leader. The family-run company based in Cologne, Germany, is represented in 35 countries and employs 4,900 people across the globe. In 2021, igus generated a turnover of €961 million. Research in the industry's largest test laboratories constantly yields innovations and more user security. Two hundred thirty-four thousand articles are available from stock, and service life can be calculated online. In recent years, the company has expanded by creating internal startups, for example, ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics, and intelligent "smart plastics" for Industry 4.0. Among the most significant environmental investments are the "chainge" program – recycling used e-chains and participating in an enterprise that produces oil from plastic waste.

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