

## **Lubrication-free adjustment of heavy loads with the new igus polymer lead screw nut**

**Wear-resistant dryspin lead screw nut for heavy-duty applications  
cost-effectively replaces ball screws**

**Plastic and heavy loads? This time igus proves that the combination works with a new lead screw nut design. The injection-moulded dryspin JGRM polymer nut offers a cost-effective alternative to ball screw nuts. The new lubrication-free and wear-resistant design can move heavy loads. For higher axial loads, the new lead screw nut is also available with a stainless steel plate as a "Heavy Duty version".**

Whether in construction machinery, actuators or solar trackers, lead screws must be able to move high loads safely and durably in a wide variety of applications. igus has now developed a new lead screw nut precisely for this application. "The new JGRM series is a robust alternative to ball screw nuts", says Thorben Hendricks, Division Manager of Screw Technology at igus GmbH. "The new design of the nut, distributes the radial and axial loads in such a way, that we can absorb higher forces in contrast to conventional flanged lead screw nuts." The new type is based on the connection sizes and pitches of ball screws and therefore can be easily replaced. The nut offers a variety of installation methods: it can be screwed on or off or installed in a hole. The thread centring spigot, the anti-rotation feature by means of spanner flats, and the use of four M6 cap head screws helps in the installation. The nut is manufactured by igus using injection moulding in Cologne, so it is very light and cost-effective. Compared to ball screw systems, the polymer lead screw nuts cost only half as much. Due to the use of iglidur J high-performance polymers, the nut has a very low coefficient of friction. The rounded thread flanks and the absence of balls make the lead screw very smooth running. In addition, due to the use of dry lubricants, the lead screw nut does not require external lubrication that has to be released into the environment. "We are offering customers a maintenance-free solution that is insensitive to dust and dirt", says Hendricks.

**Heavy duty version for more safety with higher axial loads**

For higher axial loads, igus has also developed the JGRM lead screw nut as a heavy duty version with a stainless steel plate. The flange dimension remains identical. The stainless steel plate is mounted on the nut and thus increases the load-bearing surface for force dissipation. The screw heads no longer rest on the plastic. Tests in the company's in-house 3,800 square metre test laboratory showed that the Heavy Duty version can absorb up to 6 MPa and take 50 per cent more load than a comparable plastic flanged screw nut. The new lead screw nut is available for all thread types with a diameter of 14 to 20 millimetres. It achieves its highest efficiency on the patented asymmetrical dryspin lead screw from igus.

Learn more about dryspin lead screw technology in the video:

<https://youtu.be/sM3WPNemN8Y>

**Caption:**



**Picture PM4820-1**

The new cost-effective and lubrication-free, injection-moulded dryspin heavy-duty nut in combination with a stainless steel plate can withstand loads of up to 6 MPa. (Source: igus GmbH)

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**ABOUT IGUS:**

igus GmbH develops and produces motion plastics. These lubrication-free, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings as well as 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 3,800 people across the globe. In 2019, igus generated a turnover of €764 million. Research in the industry's largest test laboratories constantly yields innovations and more security for users. 234,000 articles are available from stock and the service life can be calculated online. In recent years, the company has expanded by creating internal startups, e.g. for ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics and intelligent "smart plastics" for Industry 4.0. Among the most important environmental investments are the "change" programme – recycling of used e-chains - and the participation in an enterprise that produces oil from plastic waste. (Plastic2Oil).

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drygear", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain-systems", "e-ketten", "e-kettensysteme", "e-skin", "e-spool", "flizz", "igear", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBeL", "speedigus", "tribofilament", "triflex", "robotlink", "xirodur" and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.