



Minimized Bearings

Overcoming Load
Limitations with Metal
Minimized Bearings





EXECUTIVE SUMMARY

CCTY's miniature bearings pack performance in ultra small spaces. When a robotics manufacturer experienced deformation with plastic bushings, they turned to CCTY's engineering to devise a solution.

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CCTY's miniature bearings delivered the cycle life and durability the customer couldn't find anywhere else.

– **Nik Jerinic**
Robotics Sales Manager

THE CHALLENGE

A robotics manufacturer designing high-load systems was struggling to find a bushing and spherical plain bearing solution that could withstand the extreme forces in their application. Their existing plastic bushings were rapidly deforming under load, resulting in unacceptably short cycle life. Because the bushing had a tiny 3 mm inner diameter, sourcing a suitable off-the-shelf solution proved nearly impossible.

THE SOLUTION

CCTY designed and manufactured a custom self-lubricating metal bushing and spherical plain bearing engineered specifically for the demanding application. The materials and tolerances were optimized to handle the required loads while fitting within the extremely tight 3 mm ID constraint.

THE RESULTS

The new components exceeded performance expectations, delivering superior cycle life and exceptional deformation resistance compared to previous solutions. By providing a precise, application-specific design, CCTY enabled the customer to achieve the durability and reliability they needed.



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