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(57) Abstract :

The present invention relates to a device for dust-free automated lubrication in bearings. The device comprises a sealed lubrication chamber (1), an automated dispensing unit (2), dust protection seals (3), a lubricant reservoir (4), and a control unit (5). The system ensures consistent, dust-free lubrication, prevents contaminant ingress, reduces downtime, and optimizes lubricant usage. Experimental validation confirms extended bearing life, improved operational reliability, and reduced maintenance in dusty environments. The invention is adaptable, cost-effective, and suitable for industrial applications requiring reliable and efficient lubrication.

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