

NexBot Drives CYC123-006 Cycloidal Gearbox

NexBot
Robotics

SKU: NXB-GBX-CYC123-006 | Category: Drive
Systems > Gearboxes > Cycloidal Gearboxes

Overview

The NexBot Drives CYC123-006 is a high-performance cycloidal gearbox engineered for critical positioning and high-torque applications in industrial robotics. This component provides the core rotational power transmission for major robot axes, ensuring high accuracy and reliability under continuous, heavy-duty operation. The design of the CYC123-006 is centered around its eccentric rolling contact mechanism, which minimizes internal component wear and provides exceptional shock load resistance, far exceeding that of traditional planetary gear systems. A key benefit of this design is its extremely low backlash, consistently maintained at less than 1 arc-minute. This characteristic is critical for applications requiring high repeatability, such as arc welding, precision assembly, and machine tending, as it eliminates positioning errors during direction changes. Featuring a high reduction ratio of 121:1 in a compact housing, this gearbox allows for the use of smaller, high-speed input motors while delivering significant output torque. It is rated for a continuous torque of 550 Nm, with a peak capacity to handle intermittent loads up to 850 Nm during rapid acceleration or deceleration cycles. The unit's high torsional stiffness prevents 'wind-up' under load, resulting in faster settling times and more precise path following for the robot arm. Typical applications for the CYC123-006 include the primary J1, J2, and J3 axes of large articulated robots used in automotive manufacturing, palletizing, and heavy material handling. The unit is delivered sealed and pre-lubricated for its operational lifespan, simplifying installation and minimizing maintenance requirements. Its robust, hardened steel alloy construction ensures long-term performance in challenging industrial environments.

Technical Specifications

Parameter	Value	Unit
Weight	12.5	kg
Material	Hardened Steel Alloy	
IP Rating	IP65	
Country of Origin	SE	
Dimensions	210 x 210 x 145 mm	
Torque	550 Nm	

Safety Notice: This product must be installed and operated by qualified personnel in accordance with applicable safety standards (ISO 10218, IEC 61508).