

Robot Motor Selection Checklist

A practical worksheet for robot joint actuators, BLDC motors, wheel drives and custom motor projects.

Use this checklist before requesting a quote or technical review.

Clear requirements reduce rework and help match the motor, gearbox, encoder and driver to the real motion task.

Motion and Mechanical Requirements

01 Define the application and motion axis

Describe the robot type, axis function, mounting position and the motion required: rotary, linear, wheel drive, lifting or articulated joint.

02 Confirm torque and load

Provide continuous torque, peak torque, payload, inertia, external load and any shock or impact conditions. If values are unknown, share drawings and application photos.

03 Confirm speed and duty cycle

List target speed, acceleration, travel angle or distance, operating cycle, total run time and required service life.

04 Check space and mounting constraints

Specify diameter, length, shaft type, flange, bolt pattern, cable direction, gear ratio limits and allowable weight.

05 Identify environment and protection needs

Note temperature, humidity, dust, water exposure, vibration, noise limits, IP rating and any compliance requirements.

Electrical, Control and Project Requirements

06 Confirm voltage and power source

State nominal voltage, allowable range, current limits, battery or power supply details and any power budget restrictions.

07 Specify feedback and control interface

Identify encoder or sensor requirements, resolution, absolute or incremental feedback, CAN, RS485, PWM, EtherCAT or other control interface needs.

08 Decide motor, gearbox and driver scope

Clarify whether the project needs a bare motor, geared motor, integrated servo actuator, separate driver, brake or complete motion module.

09 Prepare commercial and development details

Share prototype quantity, annual volume, target timing, customization level, quality documents and estimated project budget if available.

10 Collect reference files before review

Attach drawings, CAD models, current motor labels, test data, wiring diagrams, photos or videos. Even incomplete material helps start a technical discussion.

Ready for a technical review?

Send the available requirements to Nexmotion Robo. Our team can help compare catalog motors, gear motors, robot joint actuators and custom development paths.

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