

Our Certifications

ISO 9001 + AS9100

ITAR Registered

DFARS Compliant

RoHS & R.E.A.C.H. Compliant

NIST SP 800-171 Compliant

LET US DRIVE YOUR NEXT PROJECT

When designing a robotics application, performance hinges on:

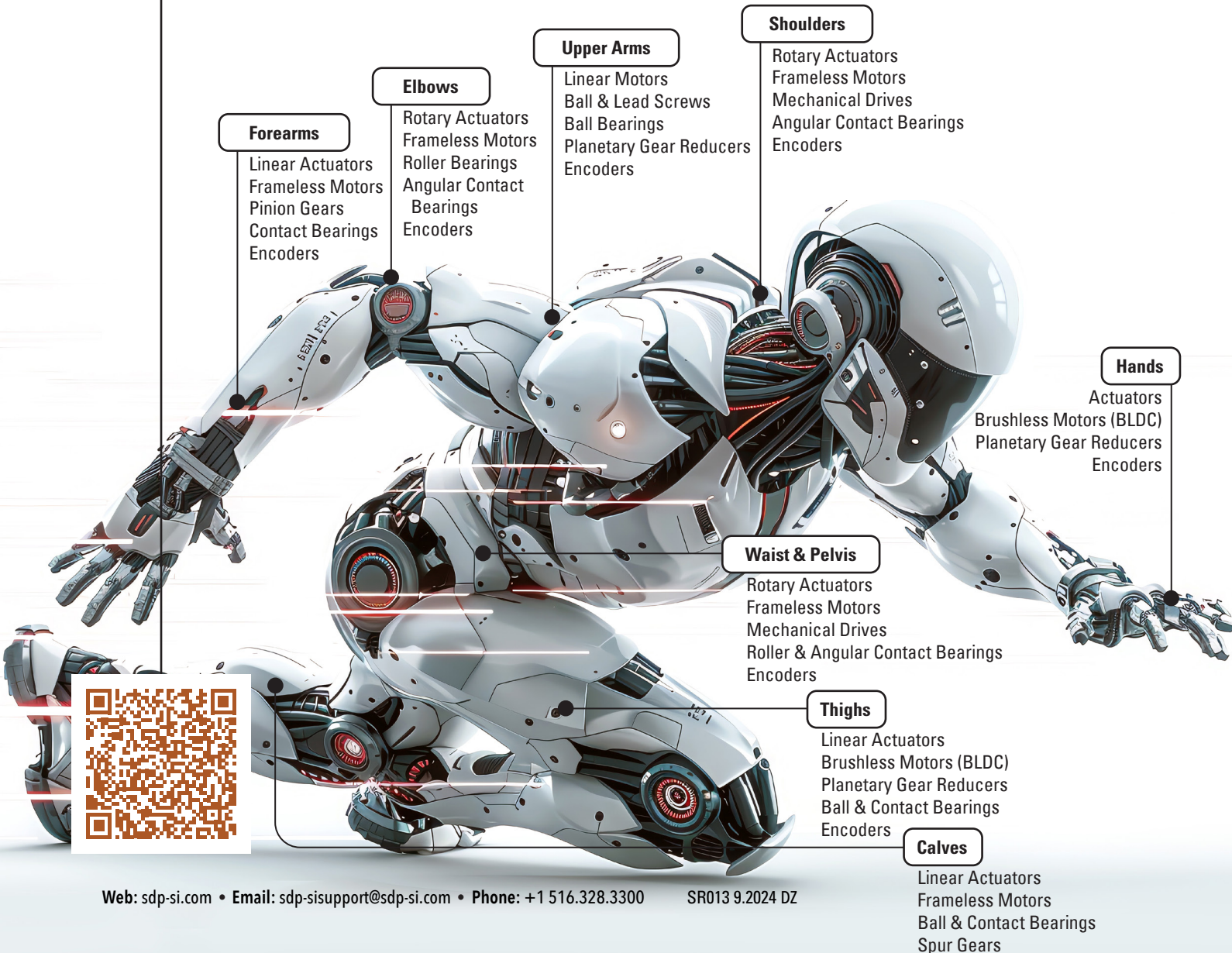
- Component Precision
- Quality
- Alignment During Assembly

We've got it covered!

SDP/SI is not only a leading manufacturer but creates complex precision gears, drivetrains, actuators, and drive systems for automation and robotics industries. Our engineering expertise plus 100,000 component options deliver the performance you need within budget.

Let's collaborate!

Schedule a free collaborative consultation to explore options and trade-offs for your specific application.



Forearms

Linear Actuators
Frameless Motors
Pinion Gears
Contact Bearings
Encoders

Elbows

Rotary Actuators
Frameless Motors
Roller Bearings
Angular Contact
Bearings
Encoders

Upper Arms

Linear Motors
Ball & Lead Screws
Ball Bearings
Planetary Gear Reducers
Encoders

Shoulders

Rotary Actuators
Frameless Motors
Mechanical Drives
Angular Contact Bearings
Encoders

Hands

Actuators
Brushless Motors (BLDC)
Planetary Gear Reducers
Encoders

Waist & Pelvis

Rotary Actuators
Frameless Motors
Mechanical Drives
Roller & Angular Contact Bearings
Encoders

Thighs

Linear Actuators
Brushless Motors (BLDC)
Planetary Gear Reducers
Ball & Contact Bearings
Encoders

Calves

Linear Actuators
Frameless Motors
Ball & Contact Bearings
Spur Gears

ENGINEERED SOLUTIONS FOR A WORLD IN MOTION

Designatronics inc.

Understanding the Key Role Actuators Play in Robotics

An actuator is a device that transforms energy into motion. Hydraulic, pneumatic, and electric actuators are all used to create movement. The choice of actuator depends on your design requirements as it will affect your robot's performance and efficiency.

Because of their precision, high efficiency, and ease of control electric motors are the most common actuators in robotics applications. When assembled with mechanical components, such as gears, belts, and lead screws the rotary motion produced by the motor is transformed into other types of motion such as linear motion.

75 years of experience optimizing mechanical performance, SDP/SI can set your idea in motion.

Electric Motors Function as Building Blocks for Robotics

For simplicity and easy adjustment of speed and torque, choose DC motors.

- Longer life span and low maintenance, brushless DC motors are used in applications that require precision, efficiency, and high speed.
- Easy to operate, brushed (PMDC) motors, also known as permanent magnet motors, are a cost-effective solution. Small and compact sizes are available.
- Stepper motors are used in pick and place operations due to their ability to provide precise controlled movement.

Precision Gears – Spur, Bevel, Helical, Worm and more

Components – Bearings, Lead Screws, Shafts, Couplings, Pulleys, Hardware

Complex Assembly – Drive Trains, Actuators

Reliable Performance and Superior Quality

- Engineering development, design, and manufacturing expertise combined with a wide range of mechanical and electromechanical options make us the only source you will need.

