

Step Into the Future of LINEAR MOTION



VOLUME PRICING
STARTING BELOW
\$1,000

ORCA™ Series Smart Linear Motor

[ORCA motors](#) offer an all-in-one, high-performance solution with force and position control, featuring a robust, low-maintenance design ideal for diverse applications. Their fully integrated design means each motor includes integrated drivers, power delivery, logic, and sensing, all calibrated during manufacturing to allow for plug-and-play functionality.

Example Applications

- Pneumatic replacement
- Grinding and polishing
- Insertion tasks
- Assembly and testing
- Packaging and dispensing
- Medical and life sciences
- Stabilization
- Autonomous vehicles

ORCA motors are incredibly versatile and are not limited to the above applications.

Is your pneumatic actuator performing inconsistently?

ORCA motors deliver precise, repeatable motion every time.

Is your application cost-sensitive?

ORCA motors start below \$1,000 in volume production for an all-in-one system.

Are you using rotary motors to create linear motion?

Discover a simpler, more reliable solution.

Do you need high speeds and fast cycle times?

ORCA motors achieve speeds up to 6.5 m/s with rapid cycle times.

Fully Integrated Solution

Unlike traditional linear motion systems, ORCA's have auxiliary components: sensors, drivers, PID controller, all built into the motor and calibrated during manufacturing.

- ✓ Motor Driver
- ✓ Controllers
- ✓ Position Sensor
- ✓ Force Sensor
- ✓ Sensor Amplifiers
- ✓ Sensor Power
- ✓ Extra Cables



Effortless Control


IO SmartHub

A simple interface for controlling and receiving feedback from a single ORCA Motor using 4-20 mA current loops and 5-30 V digital signals.

Iris Controls

A graphical interface used to monitor details, configure settings and capture data. Easily tune the internal PID position controller, set up motion profiles and performance restrictions and more.


ORCA
MOTORS
SOLUTION
YOUR
PROBLEM



ORCA-3-12V

Affordable & Highest Speed


Max Force	182 N (450 W) 40.8 lbf
Max Cont. Force	33 N 7 lbf
Max Speed	6.5 m/s 256 in/s
Force Accuracy	±1.0 N 0.22 lbf
Position Accuracy	±250 µm 0.0098 in
Standard Usable Stroke	101.6 mm 4 in
Customizable Stroke Range	25.4-863.6 mm 1-34 in



ORCA-3-36V

Affordable & High Speed


Max Force	281 N (1012 W) 63.1 lbf
Max Cont. Force	34 N 8 lbf
Max Speed	4.2 m/s 165 in/s
Force Accuracy	±1.0 N 0.22 lbf
Position Accuracy	±250 µm 0.0098 in
Standard Usable Stroke	101.6 mm 4 in
Customizable Stroke Range	25.4-863.6 mm 1-34 in



ORCA-6-LITE

Cost-Effective


Max Force	246 N (324 W) 55.5 lbf
Max Cont. Force	73 N 16 lbf
Max Speed	1.3 m/s 51 in/s
Force Accuracy	±0.74 N 0.17 lbf
Position Accuracy	±150 µm 0.0059 in
Standard Usable Stroke	177.8 mm 7 in
Customizable Stroke Range	25.4-787.4 mm 1-31 in



ORCA-6-24V

Versatile

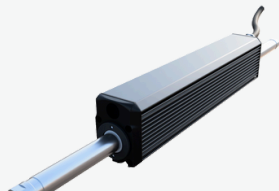
Max Force	426 N (899 W) 97.5 lbf
Max Cont. Force	75 N 17 lbf
Max Speed	3.8 m/s 148 in/s
Force Accuracy	±0.57 N 0.13 lbf
Position Accuracy	±150 µm 0.0059 in
Standard Usable Stroke	177.8 mm 7 in
Customizable Stroke Range	25.4-787.4 mm 1-31 in



ORCA-6-48V

High Force

Max Force	638 N (2023 W) 143.5 lbf
Max Cont. Force	75 N 17 lbf
Max Speed	2.5 m/s 99 in/s
Force Accuracy	±0.64 N 0.14 lbf
Position Accuracy	±150 µm 0.0059 in
Standard Usable Stroke	177.8 mm 7 in
Customizable Stroke Range	25.4-787.4 mm 1-31 in



ORCA-15-48V

Highest Forces

Max Force	1061 N (2248 W) 238 lbf
Max Cont. Force	174 N 39 lbf
Max Speed	1.5 m/s 60 in/s
Force Accuracy	±0.94 N 0.22 lbf
Position Accuracy	±150 µm 0.0059 in
Standard Usable Stroke	330.2 mm 13 in
Customizable Stroke Range	25.4-558.8 mm 1-22 in

CUSTOM SHAFT LENGTHS ARE AVAILABLE (REDUCED OR EXTENDED)



MAX FORCE
Up to 1000 N / 225 lbf



HIGH SPEED
Up to 6.5 m/s



WATERPROOF
IP68+ Rated



FORCE FEEDBACK
± 0.57 N / 0.13 lbf



SILENT OPERATION
< 20dB



BACKDRIVABLE
And Compliant

Operating Modes

Force Mode: Delivers backdrivable force for dynamic control.

Position Mode: Executes a continuous position stream with accuracy.

Kinematic Mode: Automates complex, predefined paths.

Haptic Mode: Simulates springs, dampers, mass, and vibrations for responsive feedback.

Compatible With



*Coming Soon

Software Development Kit

Our C++ SDK for Windows is available with libraries that abstract Modbus RTU communications to the ORCA Series Motors. ORCA Motors can also be programmed via the above methods.

For Engineers from Engineers

LEARN MORE



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CONTACT US

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