



Precision Gears, Drivetrains & Actuators

DRIVING MISSION-CRITICAL
APPLICATIONS FOR OVER 70 YEARS



**You Handle the Device.
We'll Handle the Black Box.**

**Delivering advanced performance and
speed-to-market**

Our team has a long history of not only manufacturing but optimizing and even reimagining complex precision gears, drivetrains and actuators. With deep expertise and vertically integrated capabilities, you can be certain we'll deliver the performance, quality and innovation you expect. Our breadth of experience and capabilities support a full suite of products, material choices and applications including robotic and minimally invasive surgery, infusion pumps, connected care devices and other life-impacting applications.

GEARS
Helical, Spur, Worm,
Bevel & more

**CONNECTING
COMPONENTS**
Housing, Frames,
Pulleys, Threads &
More

MOTORS
Direct Current,
Wound / AC

**COMPLEX
ASSEMBLY**
Drivetrains, Pumps
& Actuators



Vertical Integration Delivers Speed, Efficiency & Risk Mitigation

From the full range of in-house processes to resident knowledge that accompanies your project from start to finish across our global network

SOLUTION CONSULTATION	DESIGN SUPPORT	MATERIAL GUIDANCE	TOOL DESIGN	Q-DRIVE™ RAPID TOOL MANUFACTURE
IN HOUSE TOOL ROOM Single cavity prototype molds to multi-cavity class 101 molds	INJECTION MOLDING Precision gears, components, housing	MOTORS	ASSEMBLY Gear boxes, drivetrains, actuators & more	PACKAGING & STERILIZATION MANAGEMENT

How We Help ‘Under the hood’

CRITICAL CHARACTERISTIC	HOW WE DELIVER
Reliable Performance & Quality	Decades of experience in optimizing mechanical performance, mesh analysis and material selection, including backlash, pressure angle, slideroll ratio, root clearance and contact ratio to account for stress and fatigue performance and thermal and humidity expansion
Smooth Actuation & Low Vibration	Deep expertise in gear design, DFM, material selection and manufacturing further supported by in house coating expertise
Low Noise and Optimized Weight	Highly-skilled in a range of polymers including glass filled in addition to full DfX services
Speed to Market	Comprehensive design to rapid prototype to initial production utilizing the turnkey Q-Drive or similar platforms
Cost Effective	Streamlined end-to-end approach beginning with a focus on design for cost (multiple processes in one, material choice & more)
Consolidated, Stable Supply	Vertical integration with gears further supported by complementary processes (overmolding, extruded tubing, assembly, motors) and a global footprint (US, China, Mexico)

Capabilities & Specifications

GEAR SIZES

.125" – 7" gear diameters

TOLERANCES

+/- 0.001"
(Dependent on geometry, size and resin)

TEETH

Typically plastic profiles: PT-PT4 or any required for performance

MATERIALS

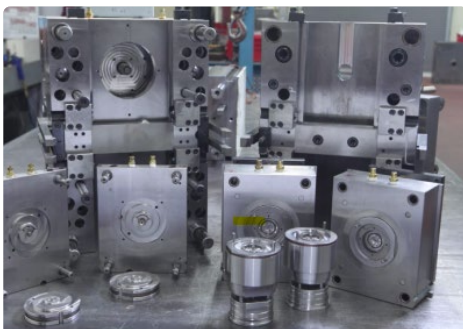
Full range of thermoplastics including highly engineered materials such as Ultem®, Radel®, PEEK, Nylon, Delrin®

QUALIFICATION GRADE

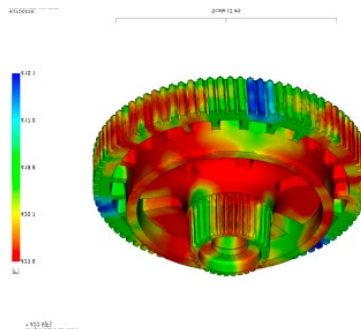
Up to AGMA Q10

ASSEMBLY

Drivetrains



Q-Drive tooling for rapid prototypes, first article inspection samples and initial production



Full suite of tools including Moldflow® to analyze & optimize designs for performance, quality and cost

