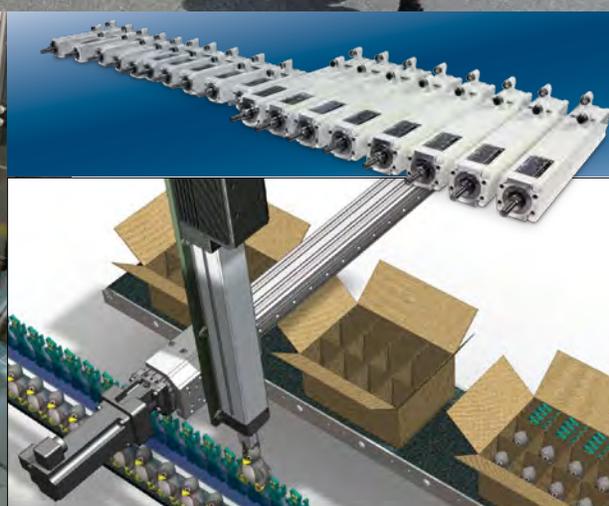
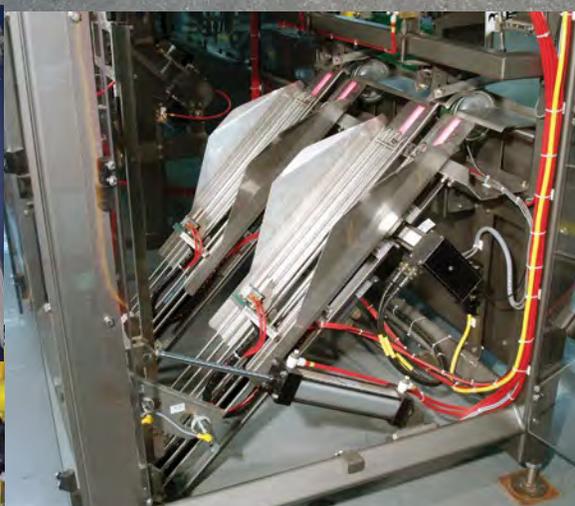
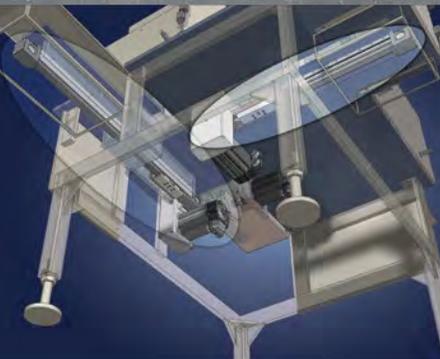


# CORPORATE OVERVIEW



**LINEAR MOTION SOLUTIONS**

# Tolomatic A legacy of innovation

EXCELLENCE IN MOTION®

*Tolomatic's growth has been powered by innovation and a commitment to exceed customer expectations.*

## **Revolutionary products like the first rodless cylinder**

After successfully improving the efficiency of packaging bags of flour in the milling industry, Burton Toles started Tolomatic by making innovative components used in that design available to other industrial equipment suppliers and manufacturers.

Float-A-Shaft® and cable cylinders established Tolomatic as an innovator and leader in the industry. Soon after, industrial caliper brakes and cone clutches were added to the product line.



## **Pneumatic product line is expanded with several innovative designs**

Tolomatic's patented band cylinder provides space savings as well as load carrying capacities. The band cylinder was the first pneumatic rodless cylinder capable of supporting loads and providing more efficient control over the effects of moment loads. Tolomatic became the only manufacturer providing all four types of rodless actuators—cable, band, slides, and magnetically coupled.



## **Electric actuators improve manufacturing efficiencies**

When customers began to request electric actuators for their accurate positioning, energy savings and reduced maintenance; Tolomatic developed a new line of electric actuators that included both rodless and rod-styles in screw and belt driven technologies. Tolomatic also built drives & controllers and supplies motors for easy-to-use, complete linear motion control. Our ACS drives integrate into cost effective complete motion control solutions.



## **Integrating servo motor technology into electric actuators for higher performance**

Tolomatic's ServoWeld® actuators focus on the specific needs of robotic resistance spot welding in the auto industry—increasing manufacturing speed, quality and safety. Tolomatic combined servo motor, drive and controller technology into electric actuators for exceptional performance and smaller footprint.

## **Tolomatic constantly invests in resources to be competitive**

Over the years, Tolomatic has invested in the processes, equipment and people to get the job done right and on time. Our current 9,000 m<sup>2</sup> (100,000 ft<sup>2</sup>) facility houses operational processes and lean manufacturing practices that are ISO 9001:2008 certified.

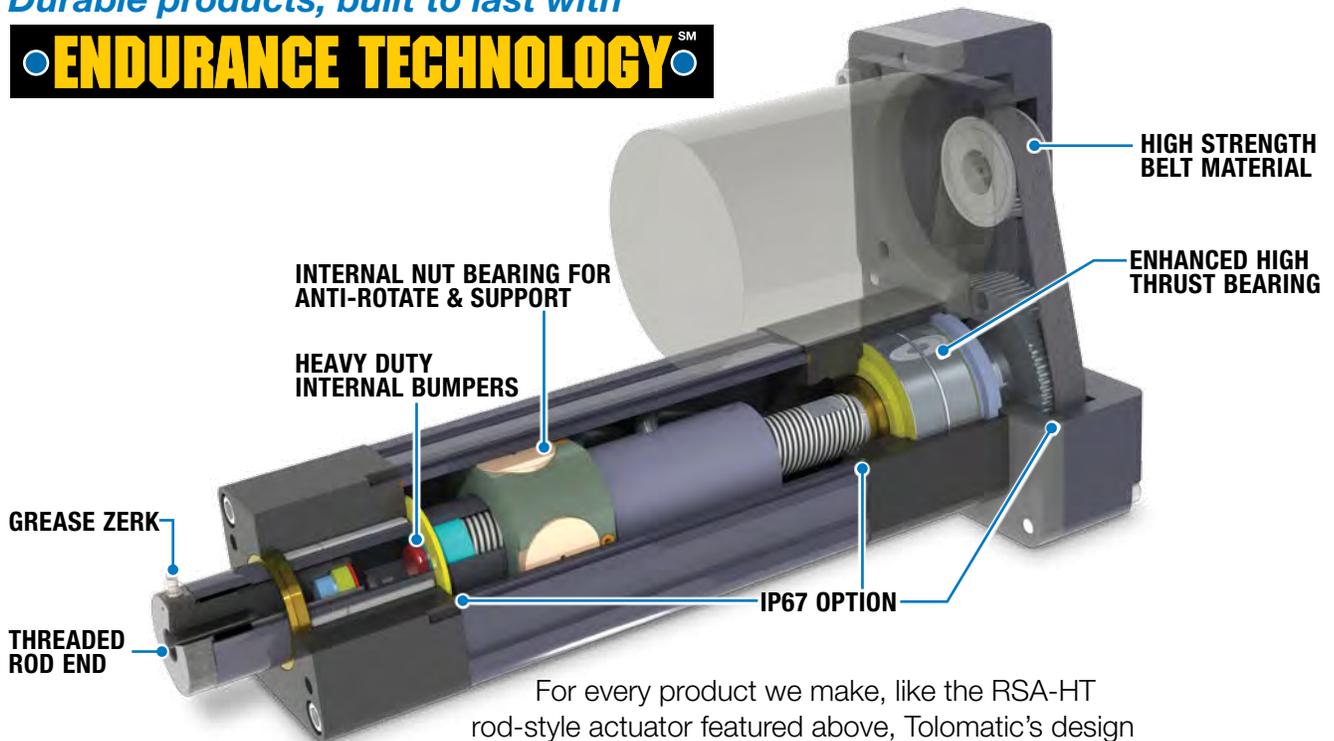


*Trust in the innovative automation products, exceptional quality and service offered by Tolomatic.*

# in solving customer needs.

Durable products, built to last with

**ENDURANCE TECHNOLOGY**<sup>SM</sup>



For every product we make, like the RSA-HT rod-style actuator featured above, Tolomatic's design philosophy is the same: build the most durable and reliable linear actuator available for use in your industrial applications.

Every design decision is driven to make our products the best in every aspect: performance, value, and life. We call this design philosophy "Endurance Technology." Customers call it "assurance."

*"Your products are built like a tank and run like a deer."* – Actual customer quote

**Tolomatic makes it easy to select the right product for your application**

## Engineering Tools on [www.tolomatic.com](http://www.tolomatic.com)



- Match and mount customer motor to Tolomatic actuators.



- Intuitive online actuator and motor sizing & selection.



- All Tolomatic information at your fingertips.



- CAD files in all the popular formats.



ELECTRIC ACTUATORS, DRIVES & MOTORS

## Electric Actuators

- *Rodless screw and Rodless belt designs* solve a wide range of moment load, precision, speed, and performance requirements.
- *A broad range of Rod-style actuators* offered with acme, ball or roller screws for the force, life and repeatability required. Guided actuator models are available.
- *Integrated actuators:* The IMA & Servoweld® integrates a servo motor into a powerful compact rod-style actuator. Automotive resistance spot welding has been revolutionized by Servoweld motor/actuators.

## Drives & Motors

- *Tolomatic ACS Servo & Stepper drives* are easy to setup—controlled via EtherNet/IP Industrial Ethernet, analog input, digital I/O or Modbus TCP.
- *Servo motors* are available in Nema 23 and 34 sizes to provide smooth, quiet operation and high performance.
- *Stepper motors* available in Nema sizes 11 through 34 are the most economical choice to achieve precise positioning.

## Service & Technical Support



- *Fast service and full technical support.*
- *All catalog products are built-to-order with the fastest delivery in the industry.*



# Built to last.



## Customized Products



- Industry leading quick turnaround on custom modifications to Tolomatic standard products.
- Custom (Blank Sheet of Paper) designs and prototype services for higher volume linear motion applications.

## Pneumatic Actuators

- Largest selection of rodless cylinders in band, cable, and magnetically coupled styles with a wide range of load capacities. We're the only company that offers all types of rodless cylinders.
- Our Power Block rod slides provide maximum force in short stroke packages, perfect for conveyor stops or load lifting applications.

## Power Transmission

- Float-A-Shaft® and Slide-Rite® right-angle gearboxes turn power around any corner.
- Caliper disc brakes in mechanical, hydraulic, pneumatic and spring-applied models offer a wide variety of industrial stopping power.
- Disc cone clutches with high torque output and non-slip, dependable performance.

## CUSTOM CAPABILITIES



Tolomatic's custom model shop can create first-piece prototypes with the industry's fastest turnaround times.

### Custom Solutions are Standard Business

Hundreds of customers partner with Tolomatic to solve unique automation application challenges. Over a third of our total business is based on products not found in our standard catalog. Our staff of highly educated and experienced mechanical, electrical, and application design engineers create efficient, leading-edge solutions for customers in a wide array of industries. Tolomatic is known for having an advanced, comprehensive, state-of-the-art facility. We are geared to handle design requests—from our model shop (for fast prototypes) all the way through our ISO 9001:2008 certified manufacturing facility.

Custom design and manufacturing has always been a key component in our business strategy. With an innovation mindset, years of solid industry experience, and fast response times, Tolomatic will get the job done. If you are looking for linear motion solutions—electromechanical, pneumatic or power transmission—and you cannot find a catalog product, contact Tolomatic. You will experience what we mean by **Excellence in Motion**.

## FOOD & BEVERAGE



Cheese production requires hygienic actuator/motor that delivers accurate pumping with easy wash-down.

### Customer Challenge:

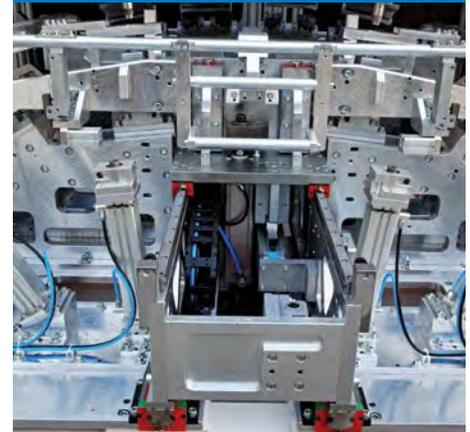
Existing stainless steel servo motor solutions were too expensive for a leading innovator in the food & beverage industry to justify a change from pneumatic cylinders to electric actuators. However, they needed more flexible operation, including multiple positions, for use in pressing, pumping, slicing and pushing.

### Tolomatic Solution:

The cost-effective, stainless steel, IP69K construction of the motor and actuator along with its hygienic design allowed the customer to eliminate the extra guarding needed to protect a standard actuator. The results were a reduction in total machine cost and time required to clean the machine. Additionally, Tolomatic's electric solution achieves multiple positions giving the customer a more flexible machine.



## MANUFACTURING



Parts assembly system relies on Tolomatic's unique electric belt-driven rod actuator to quickly and accurately position parts.

### Customer Challenge:

Part placement at a downward angle required an actuator fast enough to outpace gravity, preventing the part from slipping off the rod. The current pneumatic cylinder had problems with consistent part placement and energy efficiency. A linear motor solution was not economical.

### Tolomatic Solution:

Tolomatic designed a unique (patent pending) custom electric belt-driven rod actuator that achieved the required high speed and consistent part placement within budget. Integrating the actuator was easy using a servo motor controlled using Add-On Instructions (AOI) over EtherNet/IP™.

The cost-effective electric actuator kept the project on budget, reduced operating costs and increased efficiency.



**Turn to Tolomatic for the best motion control**

# and standard product solutions.

## MEDICAL



Angiographic-fluid-delivery system combines motion control technology with physician-interactive control.

### **Customer Challenge:**

The power injector used in an angiography system to diagnose coronary disease did not offer the ability to vary the fluid flow rate during injection. A medical company was looking to improve this technology by giving the physician more control of the process and reduce the complexity of equipment setup. Reliable, consistent performance was a key factor.

### **Tolomatic Solution:**

Tolomatic designed a customized rod screw actuator to provide the rigidity, precision and repeatability required for the injection system. The compact design is capable of performing the necessary consistent thrust required for fluid delivery. Physicians are able to easily control and monitor the fluid delivery keeping their focus on diagnosis and treatment.



CUSTOM ELECTRIC ACTUATOR

## MACHINING



Accurate positioning and support of a high speed spindle used in a precision milling operation.

### **Customer Challenge:**

A designer and manufacturer of milling equipment for boring holes in aluminum extrusions, needed the stack-up of three actuators in an X-Y-Z configuration to deflect less than 0.1778 mm (0.007") during all milling operations. Boring created a lot of debris during operation in this high duty cycle application.

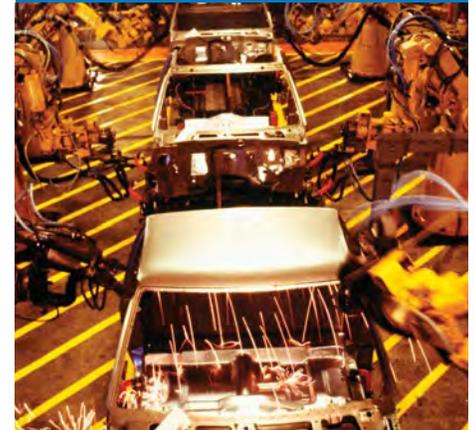
### **Tolomatic Solution:**

To meet the customer's cost goals and performance specifications, Tolomatic collaborated closely with the customer's engineering team to develop a brand new low-profile series of linear stages. These linear stages improved the overall performance of the system and prevented contamination from the machining process entering the actuator which could lead to premature failures.



CUSTOM RODLESS ELECTRIC ACTUATORS IN XY & XYZ CONFIGURATIONS

## AUTOMOTIVE



Servo actuators used in resistance spot welding (RSW) increase weld quality.

### **Customer Challenge:**

A leading automotive manufacturer was creating a state-of-the-art automotive assembly facility using electric technology. Specifications demanded a servo actuator with precise performance to create the highest quality welds possible. The actuator needed to be compatible with leading robot manufacturer equipment with minimized setup and provide zero maintenance operation over the life of the actuator.

### **Tolomatic Solution:**

Working closely with the customer, Tolomatic developed ServoWeld®, a custom servo actuator with an integral motor. The actuator required no water cooling (a common trait of weld actuators) with zero maintenance. Completely compatible with the top robot manufacturer weld guns, ServoWeld technology proved efficient, durable and helped the customer achieve their 5-star crash rating goal.



SERVOWELD ACTUATOR

and linear motion solutions for your applications.

# Performance you can count on.

## ELECTRIC

### RODLESS

	MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
<b>*MXE-S</b>	4,626 N	19,127 N	1,524 mm/sec	4,521 mm
	1,040 lb	4,300 lbf	60 in/sec	178 in
<b>*MXE-P</b>	11,490 N	19,127 N	1,524 mm/sec	4,521 mm
	2,583 lb	4,300 lbf	60 in/sec	178 in
<b>*BCS</b>	2,670 N	12,010 N	1,524 mm/sec	3,048 mm
	600 lb	2,700 lbf	60 in/sec	120 in
<b>**B3S</b>	35,728 N	12,010 N	1,524 mm/sec	4,547 mm
	8,032 lb	2,700 lbf	60 in/sec	179 in
<b>*TKS</b>	6,672 N	14,501 N	1,524 mm/sec	2,438 mm
	1,500 lb	3,260 lbf	60 in/sec	96 in
<b>*SLS</b>	890 N	756 N	1,524 mm/sec	3,048 mm
	200 lb	170 lbf	60 in/sec	120 in
<b>**B3W</b>	35,728 N	1,446 N	5,080 mm/sec	7,417 mm
	8,032 lb	325 lbf	200 in/sec	292 in
<b>*TKB</b>	6,672 N	1,090 N	2,540 mm/sec	2,438 mm
	1,500 lb	245 lbf	100 in/sec	96 in
<b>*MXB-P</b>	11,490 N	1,859 N	3,810 mm/sec	5,842 mm
	2,583 lb	418 lbf	150 in/sec	230 in
<b>*MXB-S</b>	4,626 N	1,859 N	2,540 mm/sec	5,842 mm
	1,040 lb	418 lbf	100 in/sec	230 in
<b>MXB-U</b>	-	1,859 N	5,080 mm/sec	5,842 mm
	-	418 lbf	200 in/sec	230 in

\*Maximum load with auxiliary carrier option \*\*Maximum load with auxiliary dual 180° carrier option

### ROD-STYLE

	MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
<b>ERD</b>	-	34,999 N	1,473 mm/sec	1000 mm
	-	7,868 lbf	58 in/sec	39.4 in
<b>RSA</b>	-	58,001 N	3,124 mm/sec	1,524 mm
	-	13,039 lbf	123 in/sec	60 in
<b>RSX</b>	-	133,447 N	1,519 mm/sec	660 mm
	-	30,000 lbf	59 in/sec	26 in
<b>GSA</b>	5,338 N	4,226 N	3,124 mm/sec	914 mm
	1,200 lb	950 lbf	123 in/sec	36 in
<b>ICR</b>	-	3,203 N	635 mm/sec	610 mm
	-	720 lbf	25 in/sec	24 in
<b>IMA</b>	-	30,594 N	1,334 mm/sec	457 mm
	-	6,875 lbf	52.5 in/sec	18 in

## PNEUMATIC

### RODLESS

	MAX. LOAD	MAX. THRUST	MAX. STROKE
<b>*MXP-N</b>	3,292 N	2,184 N	5,232 mm
	740 lb	491 lbf	206 in
<b>*MXP-S</b>	4,626 N	2,184 N	5,232 mm
	1,040 lb	491 lbf	206 in
<b>*MXP-P</b>	11,490 N	2,184 N	5,232 mm
	2,583 lb	491 lbf	206 in
<b>*BC2</b>	3,559 N	2,202 N	7,569 mm
	800 lb	495 lbf	298 in
<b>**BC3</b>	35,728 N	1,379 N	5,207 mm
	8,032 lb	310 lbf	205 in
<b>*LS</b>	890 N	351 N	2,134 mm
	200 lb	79 lbf	84 in
<b>LC</b>	-	347 N	4,623 mm
	-	78 lbf	182 in
<b>MG</b>	-	347 N	2,032 mm
	-	78 lbf	80 in
<b>MGS</b>	200 N	320 N	1,397 mm
	45 lb	72 lbf	55 in
<b>CC</b>	-	8,536 N	7,163 mm
	-	1,919 lbf	282 in

### ROD CYLINDER SLIDES

	MAX. LOAD	MAX. THRUST	MAX. STROKE
<b>PB</b>	111 N	547 N	76 mm
	25 lb	123 lbf	3 in
<b>PB2</b>	445 N	5,534 N†	152 mm
	100 lb	1,224 lbf†	6 in

†Maximum thrust at 10.35 bar (150 PSI)

## POWER TRANSMISSION

### GEARBOXES

	MAX. LOAD	MAX. THRUST	MAX. STROKE
<b>SRG</b>	< 1°	1:1, 2:1, 3:2	1200 RPM
<b>FAS</b>	3° - 5°	1:1, 2:1, 3:2, 2.5:1	500 RPM

### CALIPER DISC BRAKES

	***MAX. DYNAMIC TORQUE	***MAX. STATIC TORQUE
<b>Pneumatic</b>	77.4 N-m 685 in-lb	38.7 N-m 343 in-lb
<b>Hydraulic</b>	1,161.8 N-m 10,282 in-lb	580.9 N-m 5,141 in-lb
<b>Mechanical</b>	1,322.3 N-m 11,702 in-lb	661.2 N-m 5,851 in-lb
<b>Spring Applied</b>	-	510.9 N-m 4,522 in-lb

\*\*\*With 160.3 mm (6.3125") disc

### DISC CONE CLUTCHES

	FREE AIR CONSUMPTION	POWER AT 1000 RPM
<b>1209 &amp; 1309C</b>	9.01 cc	5.59 kW
	0.55 cu. in	7.5 hp
<b>1208 &amp; 1308D</b>	8.19 cc	2.24 kW
	0.50 cu. in	3.0 hp
<b>1207 &amp; 1307D</b>	3.93 cc	1.12 kW
	0.24 cu. in	1.5 hp

Maximum performance values for each actuator family shown. Not all models deliver all maximum values listed. (i.e. maximum thrust may not be available with maximum stroke length) For more information contact Tolomatic.



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