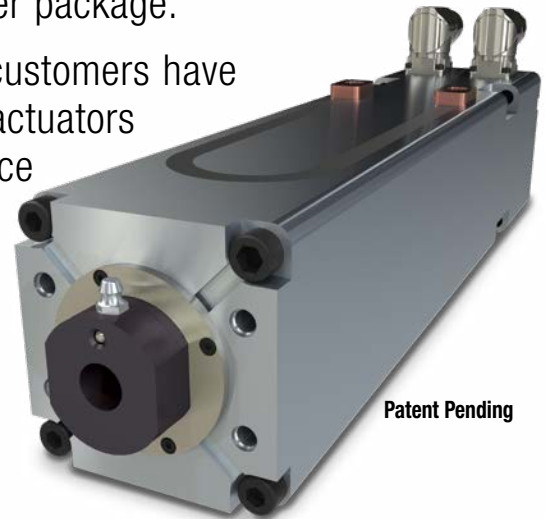


Compact ServoWeldTM Actuator

The CSWX delivers the highest precision, highest quality and best reliability of welding actuators in the industry.

Our latest & best generation ServoWeld actuator offers high force capability in a smaller package.

For nearly 2 decades customers have trusted ServoWeld actuators for their resistance spot welding needs.



Patent Pending



Designed with collaborative customer input, the CSWX exceeds expectations with:

Desired Improvements	Benefits of CSWX
Small Package High Power Density	<ul style="list-style-type: none"> • 1 model can now handle 95+% of welding applications, with C, X and Pinch weld guns • 18 kN (4,047 lbf) of force in a compact 90 mm frame
More Welds per Minute	<ul style="list-style-type: none"> • Top speed C Gun performance: up to 700 mm/sec (27.5 in/sec) • Water cooling for high performance duty cycles
Manufacturing Flexibility	<ul style="list-style-type: none"> • Force range and speed to adapt quickly to increases in production demand • Supports smallest and most powerful weld gun designs
Reliability	<ul style="list-style-type: none"> • Estimated life up to 30 million+ welds in typical welding applications with proper maintenance. • In field serviceability with rod tip zerk fitting

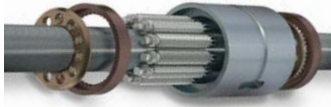
	Benefits of ServoWeld and Tolomatic
Trusted Worldwide	<ul style="list-style-type: none"> • Validated and specified at the largest global automotive OEMs • Tens of millions of vehicles manufactured with ServoWeld actuators, since 2002 • Tolomatic's engineering design experience since 1954 • 4 Service Centers in North America, Europe and Asia
Highest Performance Resistance Spot Welding	<ul style="list-style-type: none"> • Superior tip dressing performance • Best in class force repeatability • Exceptional sensitivity during robot equalization (EQ) • Unrivaled low force performance for class A surface production

CSWX

Compact ServoWeld™ Actuator

TOLOMATIC PLANETARY ROLLER SCREW

- 5mm XR
- 10mm



ENDURANCE TECHNOLOGYSM

A Tolomatic Design Principle

INTEGRATED FORCE FEEDBACK OPTION



- Integrated Piezo-electric sensor
- Scaled output 0-10 V

INTEGRATED WATER COOLING OPTION

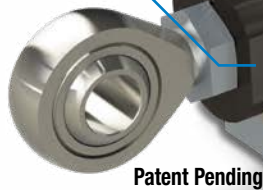
- 23% more efficient compared to external designs
- Allows for increased duty cycle and welds/hour

LARGE THRUST TUBE

40% larger diameter for greater stability

INTEGRATED ANTI-ROTATE OPTION

Optional machined 'Double-D' thrust rod designed to provide internal anti-rotation



Patent Pending

STANDARD STROKE LENGTHS

- 160 mm (6.3 in)
- 200 mm (7.9 in)
- 250 mm (9.8 in)
- 300 mm (11.8 in)

ADDITIONAL OPTIONS:

- Long Stroke
- Manual Override

REPEATABILITY

Force repeatability of $\pm 3\%$ for entire life of actuator

MID-TRUNNION MOUNTING



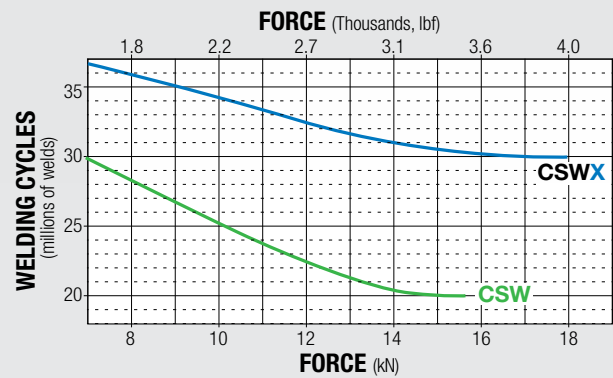
Rectangular extrusion is easy to adapt to a wide variety of mounting locations

HIGH SPEED

- 10 mm lead option
- 700 mm/s (27.5 in/sec)

PEAK FORCE
18 kN (4047 lbf)

ESTIMATED LIFE (with proper installation and maintenance)



	CSWX
Warranty	24 months
Roller Screw	RN05XR & RN10
Motor	3-stack & 4-stack

Manufactured in the U.S.A.  and China 



MADE IN U.S.A.

TolomaticTM
EXCELLENCE IN MOTION

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =
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