

**Tolomatic**<sup>TM</sup>  
EXCELLENCE IN MOTION

# LINEAR MOTION SOLUTIONS



**Accelerating the World with  
Innovative Motion Technology**

**CORPORATE BROCHURE**

# Tolomatic™ A legacy of innovation

EXCELLENCE IN MOTION

## Accelerating the World with Innovative Motion Technology

### 1954: WORLD'S FIRST RODLESS CYLINDER

Burton Toles founded Tolomatic in 1954 by creating an automatic bagging machine for the flour industry in Minneapolis, MN

Invented Float-A-Shaft® right angle gearboxes and Cable Cylinders – **world's first rodless pneumatic cylinder**

### 1980's: PNEUMATIC PRODUCT LINE EXPANDS

First pneumatic rodless band cylinder with load support

First manufacturer to produce all four types of rodless actuators—cable, band, slides, and magnetically coupled

### 1990's: MOTION CONTROL & ELECTRIC ACTUATORS

Tolomatic responded to industry demands for improved accuracy, repeatability, and efficiency as well as more advanced motion control technology with products designed for pneumatic & hydraulic replacement.

- Widest range of rod-style & rodless electric actuators
- Configurable stroke lengths at industry best lead times
- Your Motor Here® program for flexible motor mounting
- Online sizing & selection software designed for OEM & distributor use

### 2000's: COMPACT, HIGH PERFORMANCE INTEGRATED SERVO ACTUATORS

ServoWeld® - Innovative design developed for Automotive industry

Widest range of integrated models to meet specific industry needs

### 2010's: PLANETARY ROLLER SCREW DESIGNS

Full in-house production for industry leading planetary roller screws

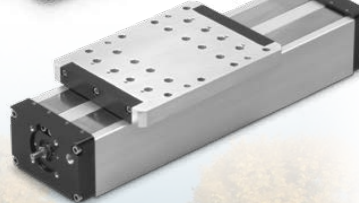
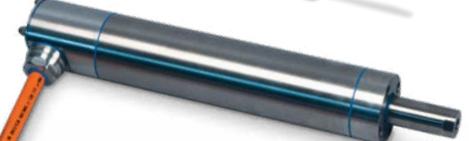
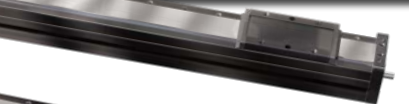
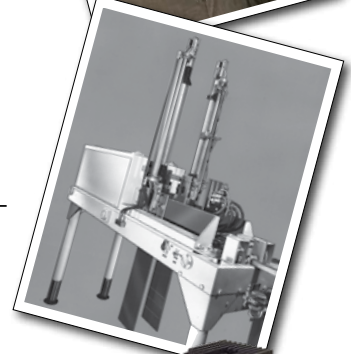
### 2020's: TOLOMATIC'S CONTINUOUS INVESTMENTS TO SERVE CUSTOMERS

Quality system certified to ISO 9001

Corporate headquarters and factory in suburban Minneapolis, MN

Facilities in China, Europe and Mexico

*Innovative motion control products, exceptional quality and service... that's Tolomatic*



# in solving customer needs.

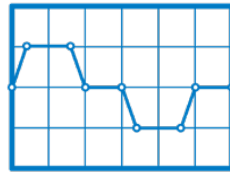
*Tolomatic makes it easy to select the right product for your application*



**Educational Resources**  
[tolomatic.com/info-center](http://tolomatic.com/info-center)



**Ask an Engineer**  
[tolomatic.com/ask](http://tolomatic.com/ask)



**Actuator Sizing**  
[sizeit.tolomatic.com](http://sizeit.tolomatic.com)



**CAD Library**  
[tolomatic.com/CAD](http://tolomatic.com/CAD)



**Your Motor Here®**  
[tolomatic.com/yhm](http://tolomatic.com/yhm)

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

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

A Tolomatic Design Principle

### **IP67 OPTION**

Ingress protection against water and dust

### **YOUR MOTOR HERE®**

- Flexible mounting for popular motors
- Inline & reverse parallel

### **ANTI-ROTATE**

Robust anti-rotation feature also provides screw support

### **LUBRICATION**

Convenient, patented re-lubrication feature

### **BELT MATERIAL**

High strength belt material

### **BEARINGS**

Enhanced high force bearings

### **SCREW TECHNOLOGY**

Roller screw and ball screw options

### **BUMPERS**

Heavy duty internal bumpers

### **STEEL THRUST ROD**

Salt bath nitride treatment for hardness and resistance to adherence of potential contaminants

# Tolomatic™ Linear Motion Solutions

EXCELLENCE IN MOTION

## AUTOMOTIVE



Resistance Spot Welding, Joining, Pressing, Riveting, Stamping, Nut Placement

- Compact, Lightweight
- Integrated Servo Motor
- Long Life Roller Screw Design



SWA ServoWeld® Actuator



IMA Integrated Servo Actuator

## FOOD & BEVERAGE

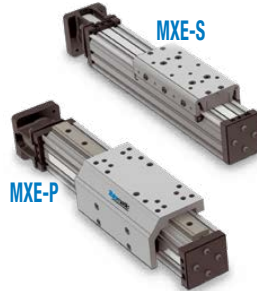


Volumetric Filling, Pumping, Cutting, Slicing, Sorting



IMA-S Hygienic, 316SS, IP69K Integrated Servo Actuator

- Stainless Steel
- IP69K Wash-Down Protection
- Hygienic Design
- Clean-in-Place



MXE-S

MXE-P



MXP-N

MXP-S

MXP-P

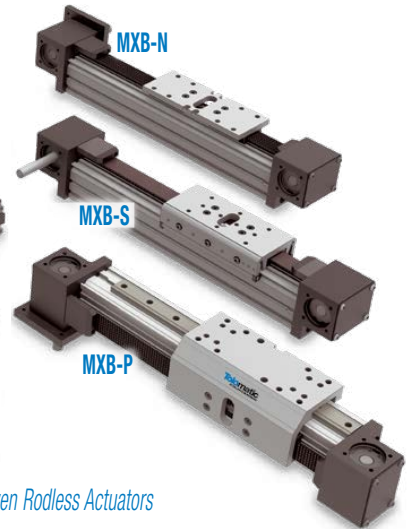
MX: Ballscrew, Pneumatic & Belt Driven Rodless Actuators

## PACKAGING



Positioning, Sealing, Forming, Pressing, Palletizing, Filling

- Electric & Pneumatic Rodless Actuators
- Configurable Stroke Lengths
- Wide Array of Load and Speed Capabilities
- Flexible Motor Mounting



MXB-N

MXB-S

MXB-P

## INSPECTION, SEMICONDUCTOR & ELECTRONICS



Measurement, Geometry Inspection, Weld Inspection

## MEDICAL, PHARMA & LIFE SCIENCE



Coating, Positioning, Rehabilitation, Injection, Pick & Place

## CONVEYING & MATERIAL HANDLING



Diverting, Sorting, Transfers, Palletizing, Change-Over, Case Packing, Labeling

## PAPER & PRINTING



Camera Positioning, Cutting, Product Feeder, Tensioning, Winding, Unwinding

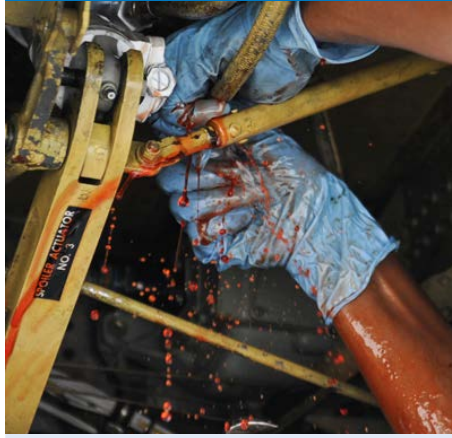
# for Most Industries and Applications

## TIMBER & BUILDING PRODUCTS



Planing, Fencing, Guides, Positioning, Feed Control, Veneer Lathe

## FLUID POWER REPLACEMENT



Replacing Pneumatic Cylinders, Replacing Hydraulic Cylinders

## METALS & FABRICATION



Casting, Cutting, Bending, Punching, Clinching

*RSA-HT Rugged, IP67 Roller Screw Designs*



- Clean, Leak-Free Technology
- Rugged, IP67 Designs
- Roller Screw Driven
- Consistent Operation in a Wide Range of Temperatures

- Flexible & Efficient
- Full Motion Control Capabilities
- Minimal Maintenance
- Reliable Long Life
- Lowest Total Cost of Ownership

*RSX High Force, Hydraulic Class Electric Actuators*



- Roller Screw Driven
- Reliable Long Life
- Robust Design



*ERD Economical, Pneumatic Class Electric Actuators*

## ENTERTAINMENT & ANIMATION



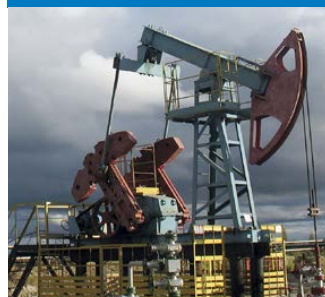
Animatronics, Camera Positioning, Prop Actuation, Exhibit Automation, Simulators

## AEROSPACE, DEFENSE & SECURITY



Security Barriers, Flight Simulators, Munitions Assembly, Motion Simulators

## OIL, GAS & PROCESS CONTROLS



Well Control, Flow Control, Choke Valve Control, MPD, Rig Automation

## MACHINE TOOLS



Door Automation, Positioning, Drilling

## ROD STYLE SCREW

### ERD ECONOMICAL



#### SOLUTION FOR:

- Pneumatic cylinder replacement
- General automation

#### STANDARD FEATURES:

- Stainless steel housing & thrust rod
- Ball or Acme screw driven
- Your Motor Here® flexible inline or reverse parallel motor mounting

#### OPTIONS:

- Stainless steel construction upgrade
- IP67 & IP69k ingress protection
- Internal anti-rotate
- External guided tooling plate
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	ERD	10	15	20
MAX. STROKE	in	10	24	24
	mm	254	609	609
MAX. FORCE	lbf	100	200	500 (315 SS2)
	N	445	890	2224 (1401 SS2)
MAX. SPEED	in per sec	40	40	38
	mm per sec	1016	1016	965

- Patented

### RSH STAINLESS STEEL, HYGIENIC



#### SOLUTION FOR:

- Pneumatic & hydraulic replacement
- Food & beverage processing

#### STANDARD FEATURES:

- Full stainless steel construction
- Roller or Ball screw driven
- Your Motor Here® flexible inline or reverse parallel motor mounting
- IP69k ingress protection
- Replaceable dual seal system
- Grease port for re-lubrication without disassembly

#### OPTIONS:

- Seals with protection from abrasives or caustic chemicals
- Internal anti-rotate
- Metric mounting and rod-end accessories

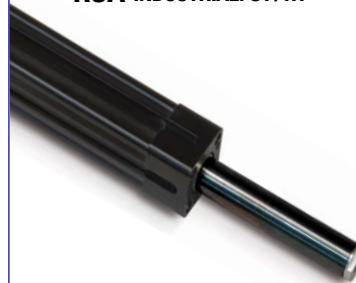
#### SPECIFICATIONS:

	RSH	22	25	30
MAX. STROKE	in	39.4	39.4	48 <sup>§</sup>
	mm	1000	1000	1219 <sup>§</sup>
MAX. FORCE	lbf	1700	4159	7943
	N	7562	18500	35330
MAX. SPEED	in per sec	19.6	19.6	19.6
	mm per sec	498	498	498

<sup>§</sup>RSH30 extended stroke length 50" (1270mm) available for roller screws, contact Tolomatic for production time.

- Patented

### RSA INDUSTRIAL: ST/HT



#### SOLUTION FOR:

- Pneumatic & hydraulic replacement
- General automation

#### STANDARD FEATURES:

- Anodized aluminum design
- Roller, Ball or Acme screw driven
- Internal anti-rotate
- Your Motor Here® flexible inline or reverse parallel motor mounting

#### OPTIONS:

- IP67 ingress protection
- Metric or US Standard mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	RSA	12	16	24	32	50	64
MAX. STROKE	in	12	18	24	36	48	60
	mm	305	457	610	914	1219	1524
MAX. FORCE	lbf	130	130	1700	4159	7868	13039
	N	578	578	7562	18500	34999	58001
MAX. SPEED	in per sec	123	123	50	50	50	58
	mm per sec	3124	3124	1270	1270	1270	1473

### RSX EXTREME FORCE



#### SOLUTION FOR:

- Hydraulic replacement
- Heavy duty applications

#### STANDARD FEATURES:

- Steel tie rods and hard coat anodized aluminum design
- Roller screw driven
- Internal anti-rotate
- Your Motor Here® flexible inline or reverse parallel motor mounting

#### OPTIONS:

- IP67 ingress protection
- Oil cooled option for high duty cycle, high force applications
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	RSX	080	096	096P	128
MAX. STROKE STANDARD	in	35.0	37.8	17.7	26.0
	mm	890	960	450	660
MAX. STROKE EXTENDED*	in	59.1	59.1	—	48.4
	mm	1500	1500	—	1230
MAX. FORCE	lbf	18000	30000	40000	50000
	kN	80.1	133.5	178	222.4
MAX. SPEED	in per sec	27.6	29.9	29.9	19.7
	mm per sec	700	759	759	500

\*Any stroke length above standard and up to max. extended stroke length, may require longer production time, contact Tolomatic.

# MOTION PRODUCTS



## DRIVE ACTUATORS

### GSA GUIDED LOAD



#### SOLUTION FOR:

- General automation
- Guided loads

#### STANDARD FEATURES:

- Anodized aluminum design
- Ball or Acme screw driven
- Hardened guide rods with four bearing surfaces
- Your Motor Here® flexible inline or reverse parallel motor mounting

#### OPTIONS:

- Composite or linear ball bearings
- Standard, oversized or stainless steel guide rods
- Metric or US Standard mounting
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	GSA	12	16	24	32
MAX. STROKE	in	18	24	30	36
	mm	457	609	762	914
MAX. FORCE	lbf	130	471	850	950
	N	578	2095	3781	4226
MAX. LOAD	lb	400	500	1000	1200
	N	1779	2224	4448	5338
MAX. SPEED	in	123	123	50	50
	per sec mm	3124	3124	1270	1270

### IMA COMPACT, INTEGRATED SERVO



#### SOLUTION FOR:

- Pneumatic & hydraulic replacement
- High performance applications

#### STANDARD FEATURES:

- Anodized aluminum design
- Roller or ball screw driven
- Integrated servo motor (230 or 460 Vac) with skewed winding
- Grease port (patented) for easy re-lubrication
- IP65 ingress protection

#### OPTIONS:

- Connector & feedback options for leading servo drive manufacturers
- White epoxy, food grade coating with stainless hardware
- IP67 ingress protection
- Holding brake
- Metric mounting & rod-end accessories

#### SPECIFICATIONS:

IMA	22		33		44		55	
	Ball	Roller	Ball	Roller	Ball	Roller	Ball	Roller
MAX. STROKE	in	12	18	18	18	18	18	18
	mm	305	457	457	457	457	457	457
MAX. FORCE	lbf	325	1000	2500	2000	4000	3000	6875
	kN	1.45	4.45	11.1	8.90	17.8	13.35	30.6
MAX. SPEED	in	28	48	24	52.5	23	31.4	15.7
	per sec mm	711	1219	610	1334	584	787	399

### IMA-S HYGIENIC, INTEGRATED SERVO



#### SOLUTION FOR:

- Food & beverage processing

#### STANDARD FEATURES:

- 316 stainless steel construction
- Hygienic design
- Roller or ball screw driven
- Integrated servo motor (230 or 460 Vac) with skewed winding
- Food grade lubrication and grease port (patented) for easy re-lubrication
- IP69k ingress protection

#### OPTIONS:

- Cabling, connector & feedback options for leading servo drive / control manufacturers
- EHEDG fasteners
- Field replaceable front head & seal
- Internal anti-rotate (IMASA33)
- Holding brake
- Metric mounting & rod-end accessories

#### SPECIFICATIONS:

IMA-S	22		33		33SA	
	Ball	Roller	Ball	Roller	Roller	Roller
MAX. STROKE	in	12	18	18	18	12
	mm	305	457	457	457	305
MAX. FORCE	lbf	325	1000	2500	2500	
	kN	1.45	4.45	11.1	11.1	
MAX. SPEED	in	19.6	19.6	19.6	19.6	
	per sec mm	500	500	500	500	

### SWA/B\* RESISTANCE SPOT WELDING



### CSWX\*

#### SOLUTION FOR:

- 7th axis robotic resistance spot welding
- Pedestal / projection welding

#### STANDARD FEATURES:

- Anodized aluminum design
- Roller screw driven
- Integrated servo motor (230 or 460 Vac) with skewed winding
- IP65 ingress protection

#### OPTIONS:

- Feedback device & connector integration for leading robot manufacturers
- Holding brake
- Metric mounting

#### SPECIFICATIONS:

	SWA/B		CSWX		
	3	4	RN05XR	RN10	
MAX. STROKE	in	6	12	6.3	6.3
	mm	152	305	160	160
MAX. FORCE	lbf	2500	4950	4047	2350
	kN	11.1	22.0	18.0	10.5
MAX. SPEED	in	23	23	13.8	27.6
	per sec mm	584	584	350	700

\*Contact Tolomatic for price and lead time

## RODLESS SCREW DRIVE ACTUATORS



**MXE-S SOLID BEARING**

**MXE-P PROFILED RAIL BEARING**

**MXE-S**

**SOLUTION FOR:**

- Light to moderate loads & moments

**STANDARD FEATURES:**

- Self-lubricating solid bearing

**OPTIONS:**

- Floating mount

**MXE-P**

**SOLUTION FOR:**

- Moderate to high loads & moments

- Stable, precision load guidance

**STANDARD FEATURES:**

- Profiled rail ball bearing

**COMMON STANDARD FEATURES:**

- Anodized aluminum design
- Stainless steel dust band
- Ball or Acme screw driven
- Large mounting pattern for high load stability
- Your Motor Here<sup>®</sup> flexible motor mounting

**COMMON OPTIONS:**

- Auxiliary carrier for higher load & moment capacity
- Metric or US Standard mounting
- Reed, solid state PNP or NPN switches

**SPECIFICATIONS:**

		16	25	32	40	50	63						
<b>MAX. STROKE</b>	in	31	134	133	131	131	125						
	mm	787	3404	3378	3327	3320	3175						
<b>MAX. FORCE</b>	lbf	45	170	170	800	2700	4300						
	N	200	756	756	3559	12010	19127						
<b>MAX. SPEED</b>	in	42	60	60	60	60	50						
	per sec	mm	1067	1524	1524	1524	1270						
		16S	16P	25S	25P	32S	32P	40S	40P	50S	50P	63S	63P
<b>*MAX. LOAD</b>	lb	35	217	70	449	150	569	225	736	315	1014	520	1292
	N	156	966	311	1996	667	2531	1001	3274	1401	4510	2313	5745

\*Auxiliary carrier option offers increased load and bending moment capacity



**B3S INTERNAL RE-CIRCULATING BALL BEARING**

**SOLUTION FOR:**

- Moderate to high loads & moments
- Stable, precision load guidance

**STANDARD FEATURES:**

- Anodized aluminum design
- Load bearing carrier design with internal re-circulating ball bearings
- Hardened steel rail guides
- Stainless steel sealing band
- Ball or Acme screw driven
- Your Motor Here<sup>®</sup> flexible motor mounting

**OPTIONS:**

- Auxiliary carrier
- Dual 180 carrier for higher load & moment capacity
- Metric or US Standard mounting
- Reed, solid state PNP or NPN switches

**SPECIFICATIONS:**

		B3S	10	15	20
<b>MAX. STROKE</b>	in	136	133	131	
	mm	3454	3378	3337	
<b>MAX. FORCE</b>	lbf	170	800	2700	
	N	756	3559	12010	
<b>*MAX. LOAD</b>	lb	591	1454	2008	
	N	2629	6468	8932	
<b>MAX. SPEED</b>	in	60	60	60	
	per sec	mm	1524	1524	1524

\*Dual 180° & auxiliary carrier options offer increased load and bending moment capacity

**TRS DUAL PROFILE RAIL BEARING**



**SOLUTION FOR:**

- High requirements for flatness, straightness & accuracy
- Moderate loads & moments

**STANDARD FEATURES:**

- Anodized aluminum design
- Dual profile rail linear table design
- Clean, smooth enclosed design keeps potential contaminants away from interior components
- Stainless steel dust bands
- Roller or ball screw driven
- Inline or reverse-parallel motor mount

**OPTIONS:**

- Toe clamps
- Reed, solid state PNP or NPN switches with rails

**SPECIFICATIONS:**

		TRS	100	165
<b>MAX. STROKE</b>	in	29.5	43.3	
	mm	750	1100	
<b>MAX. FORCE</b>	lbf	562	562	
	N	2500	2500	
<b>*MAX. LOAD</b>	lb	1085	1356	
	N	4800	6000	
<b>MAX. SPEED</b>	in	36	36	
	per sec	mm	914	914

\*Auxiliary carrier option offers increased load and bending moment capacity



# MOTION PRODUCTS



## RODLESS BELT DRIVE ACTUATORS



### MXB-U

#### SOLUTION FOR:

- Loads that are externally guided and supported

#### STANDARD FEATURES:

- Low profile mounting plate

### MXB-S

#### SOLUTION FOR:

- Light to moderate loads and moments

#### STANDARD FEATURES:

- Self-lubricating solid bearing

#### OPTIONS:

- Floating mount
- Auxiliary carrier for higher load & moment capacity

### MXB-P

#### SOLUTION FOR:

- Moderate to high loads and moments

- Stable, precision load guidance

#### STANDARD FEATURES:

- Profiled rail ball bearing

#### OPTIONS:

- Auxiliary carrier for higher load & moment capacity

#### COMMON STANDARD FEATURES:

- Anodized aluminum design
- Belt driven: High power polyurethane HTD tooth profile with steel tensile members
- Large mounting pattern for high load stability
- High Speed • External bumpers
- Your Motor Here® flexible motor mounting

#### COMMON OPTIONS:

- Metric or US Standard mounting
- Reed, solid state PNP or NPN switches

#### SPECIFICATIONS:

	16	25	32	40	50	63							
<b>MAX. STROKE</b>	in 200	414	413	412	410	217							
	mm 5080	10516	10490	10465	10414	5512							
<b>MAX. FORCE</b>	lbf 38	151	209	250	325	418							
	N 169	672	930	1112	1446	1859							
	16S	16P	25S	25P	32S	32P	40S	40P	50S	50P	63S	63P	
<b>*MAX. LOAD</b>	lb 35	217	70	449	150	569	225	736	315	1014	520	1292	
	N 156	966	311	1996	667	2531	1001	3274	1401	4510	2313	5745	
<b>MAX. SPEED</b>	in/sec	MXB-U = 200 in/sec • MXB-S = 100 in/sec • MXB-P = 150 in/sec											
	mm/sec	MXB-U = 5080 mm/sec • MXB-S = 2540 mm/sec • MXB-P = 3810 mm/sec											

\*Auxiliary carrier option offers increased load and bending moment capacity

### B3W RE-CIRCULATING BALL BEARING



#### SOLUTION FOR:

- Moderate to high loads & moments
- Stable, precision load guidance

#### STANDARD FEATURES:

- Anodized aluminum design
- Load bearing carrier design with internal re-circulating ball bearings
- Hardened steel rail guides
- Stainless steel sealing band
- Belt driven: steel reinforced belts
- Your Motor Here® flexible motor mounting

#### OPTIONS:

- Auxiliary carrier • Dual 180 carrier for higher load & moment capacity
- Metric or US Standard mounting
- Reed, solid state PNP or NPN switches

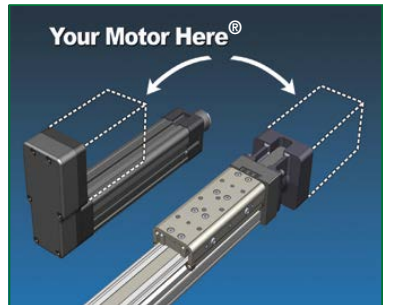
#### SPECIFICATIONS:

	B3W	10	15	20
<b>MAX. STROKE</b>	in 574	416	320	
	mm 14579	10566	8128	
<b>MAX. FORCE</b>	lbf 150	250	325	
	N 667	1112	1446	
<b>*MAX. LOAD</b>	lb 591	1454	2008	
	N 2629	6468	8932	
<b>MAX. SPEED</b>	in per sec 157	200	200	
	mm 3988	5080	5080	

\*Dual 180° & auxiliary carrier options offer increased load and bending moment capacity

## DRIVES & MOTORS

SELECT A COMPLETE SYSTEM FROM TOLOMATIC OR ADD ANY MOTION SYSTEM TO TOLOMATIC'S ACTUATORS



#### YOUR MOTOR HERE® MADE-TO-ORDER MOTOR MOUNTS.

- Tolomatic will provide a motor-specific interface for nearly any motor.

Visit [www.tolomatic.com/yhm](http://www.tolomatic.com/yhm) to find your motor/actuator match!



IN PARTNERSHIP WITH JVL, NIDEC AND OTHER MANUFACTURERS FOR MORE OPTIONS



### BAND CYLINDERS

#### MXP-N INTERNAL BEARING



##### SOLUTION FOR:

- Guiding and supporting light loads
- Good for vertical applications or with externally guided loads

##### STANDARD FEATURES:

- Durable self-lubricating internal bearing performance tested for millions of cycles

#### MXP-S SOLID BEARING



##### SOLUTION FOR:

- Guiding and supporting medium loads
- Loads requiring increased moment capacity

##### STANDARD FEATURES:

- Increased moment capacity carrier design with self-lubricating bearings
- Trapezoidal bearing design maximizes bearing surface area for less pressure & less wear on bearing surfaces
- Isolated piston extends service life of the piston seals

#### MXP-P PROFILED RAIL BEARING



##### SOLUTION FOR:

- Guiding and supporting heavy loads
- High speed and precision
- Vertical orientation or cantilevered loads

##### STANDARD FEATURES:

- Long life recirculating ball bearings
- Largest moment load capacity
- Low carrier height
- Isolated piston extends service life of the piston seals

#### BC3 INTERNAL BALL BEARING



##### SOLUTION FOR:

- Guiding and supporting heavy loads

##### STANDARD FEATURES:

- Reliable, maintenance free bearing system
- Bearing components are sealed and lubricated at the factory
- Hardened steel rail guides for high performance and repeatable accuracy
- Stainless steel sealing band system
- Adjustable internal end-of-stroke cushion
- Integral mounting system
- Isolated piston extends service life of the piston seals

##### OPTIONS:

- Auxiliary carrier
- Dual 180° carrier
- Adjustable shock absorbers
- Foot mount
- Single end porting
- Tube supports
- Reed or solid state position sensors
- Metric or US Standard mounting

#### COMMON STANDARD FEATURES:

- Non-wear stainless steel bands
- Adjustable internal end-of-stroke cushion
- Single piece high strength piston up to 28% stronger than competition

#### COMMON OPTIONS:

- Tube clamps
- Auxiliary carrier
- Adjustable and fixed shock absorbers
- Single end porting
- Reed or solid state position sensors
- Foot mount
- Metric or US Standard mounting

#### SPECIFICATIONS:

		16	25	32	40	50	63												
<b>BORE SIZE</b>	in	0.63	1.00	1.25	1.50	2.00	2.50												
	mm	16	25	32	38	50	64												
<b>MAX. STROKE</b>	in	206	206	205	203	203	103												
	mm	5232	5232	5207	5156	5156	2616												
<b>MAX. FORCE</b>	lbf	30.7	78.5	123	177	305	491												
	N	136	349	546	786	1356	2184												
		16N	16S	16P	25N	25S	25P	32N	32S	32P	40N	40S	40P	50N	50S	50P	63N	63S	63P
<b>*MAX. LOAD</b>	lb	30	35	217	65	70	449	115	150	569	195	225	736	270	315	1014	370	520	1292
	N	133	156	965	289	311	1997	512	667	2531	867	1001	3274	1201	1401	4511	1646	2313	5747

\*Auxiliary carrier doubles the load capacity and also increases My and Mz bending moment capacity.

#### SPECIFICATIONS:

		10	15	20
<b>BORE SIZE</b>	in	1.00	1.50	2.00
	mm	25	32	50
<b>MAX. STROKE</b>	in	205	202	142
	mm	5207	5130	3606
<b>MAX. FORCE</b>	lbf	78	176	310
	N	347	783	1379
<b>*MAX. LOAD</b>	lb	591	1454	2008
	N	2629	6468	8932

\*Auxiliary and dual 180° carrier doubles the load capacity and also increases My and Mz bending moment capacity.

Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

# ACTUATORS



## CYLINDERS

### BC2 SOLID BEARING



#### SOLUTION FOR:

- Guiding and supporting medium loads

#### STANDARD FEATURES:

- Increased moment capacity carrier design w/ self-lubricating bearings
- Adjustable carrier for maintaining consistent bearing surfaces
- Stainless steel sealing band system
- Adjustable internal end-of-stroke cushion
- Formed steel piston bracket
- Isolated piston extends service life of the piston seals

#### OPTIONS:

- Auxiliary carrier
- Four ported head • Floating mount
- Foot mount • Tube support
- Adjustable shock absorbers
- Reed or solid state position sensors
- Metric or US Standard mounting

#### SPECIFICATIONS:

	05	10	12	15	20	25
<b>BORE SIZE</b>	in 0.50	1.00	1.25	1.50	2.00	2.50
	mm 12	25	32	40	50	63
<b>MAX. STROKE</b>	in 171	350	288	298	274	163
	mm 4343	8890	7315	7569	6959	4140
<b>MAX. FORCE</b>	lbf 16	78	120	176	310	495
	N 71	347	534	783	1379	2202
<b>*MAX. LOAD</b>	lb 5.0	60	120	180	300	400
	N 22	267	534	801	1334	1779

\*Auxiliary carrier doubles the load capacity and also increases My and Mz bending moment capacity.

## CABLE CYLINDERS

### TC TRACK- GUIDE RODS & BEARING



#### SOLUTION FOR:

- Guiding and supporting light loads

#### STANDARD FEATURES:

- Nylon jacketed aircraft grade cables
- Lightweight aluminum design
- Unique gland seals provide leak free seal for cables
- Adjustable internal end-of-stroke cushion

#### OPTIONS:

- Automatic tensioner
- Caliper disc brake
- 3 ported head
- Pneumatic or hydraulic power
- Steel tube
- Seals of Viton® material
- Reed position sensors

#### SPECIFICATIONS:

	05	07	10	15
<b>BORE SIZE</b>	in 0.50	0.75	1.00	1.50
	mm 13	19	25	38
<b>MAX. STROKE</b>	in 67	80	80	80
	mm 1702	2032	2032	2032
<b>MAX. FORCE</b>	lbf 19	43	78	174
	N 85	191	347	774
<b>MAX. LOAD</b>	lb 60	60	60	15
	N 267	267	267	67

### CC DOUBLE-ACTING

### SA SINGLE-ACTING

### DP DOUBLE-PURCHASE



#### SOLUTION FOR:

- Loads that are externally guided and supported

#### SOLUTION FOR:

- Used where gravity supplies return force
- Loads that are externally guided and supported

#### SOLUTION FOR:

- Effectively doubles stroke length and speed
- Loads that are externally guided and supported

#### STANDARD FEATURES:

- Nylon jacketed aircraft grade cables
- Unique gland seals provide leak free seal for cables
- Adjustable internal end-of-stroke cushions
- Actuator may be located remotely from load and contamination
- Stroke lengths up to 60 feet with optional tube couplers

#### OPTIONS:

- Pneumatic or hydraulic power
- 3 ported head
- Steel tube
- Seals of Viton® material
- Reed position sensors
- Automatic tensioner\*\*\*
- Caliper disc brake\*\*\*
- Tube coupler\*\*\*
- \*\*\*Not available for SA

#### SPECIFICATIONS:

	CC	05	07	10	15	20	25	30	40	50	52
<b>BORE SIZE</b>	in 0.50	0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00	2.00	
	mm 13	19	25	38	51	64	76	102	127	51	
<b>MAX. STROKE</b>	in 60	138	282	280	281	281	280	279	134	280	
	mm 1524	3505	7163	7112	7137	7137	7112	7087	3404	7112	
<b>MAX. FORCE</b>	lbf 19	43	78	174	618	972	1398	1249	1919	1532	
	N 85	191	347	774	2749	4324	6219	5556	8536	6815	

Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

# PNEUMATIC ACTUATORS

## RODLESS CYLINDERS

### MAG CYLINDERS



#### SOLUTION FOR:

- Environmentally sensitive applications that require low contamination
- If magnetic coupling strength is exceeded the piston and carrier will decouple - a safety benefit in many applications

#### STANDARD FEATURES:

- Field repairable to minimize downtime
- Fully enclosed design keeps contaminants from entering or lubricants from exiting actuator body
- Three coupling strengths available
- Stainless steel tubing

#### OPTIONS:

- Pneumatic or hydraulic power
- Floating mount • Foot mount
- Reed or solid state position sensors

#### SPECIFICATIONS:

		100
BORE SIZE	in	1.00
	mm	25
MAX. STROKE	in	80
	mm	2032
MAX. FORCE	lbf	78
	N	347
MAGNETIC STRENGTH	lb	100
	N	445



#### SOLUTION FOR:

- Environmentally sensitive applications that require low contamination
- If magnetic coupling strength is exceeded the piston and carrier will decouple - a safety benefit in many applications

#### STANDARD FEATURES:

- Fully enclosed design keeps contaminants from entering or lubricants from exiting actuator body
- Low profile rigid design
- Stainless steel tubing
- Hardened steel shafts

#### OPTIONS:

- Pneumatic or hydraulic power
- Choose either sintered bronze or linear ball bearings
- Shock absorbers • Proximity sensors
- Reed or solid state position sensors

#### SPECIFICATIONS:

		100
BORE SIZE	in	1.00
	mm	25
MAX. STROKE	in	55
	mm	1397
MAX. FORCE	lbf	78
	N	347
MAX. LOAD	lb	90
	N	400

## ROD CYLINDER SLIDES

### PB2 POWER-BLOCK2 SLIDE



#### SOLUTION FOR:

- Withstands heavy side loads
- Great for conveyor line stops
- Load lifting applications

#### STANDARD FEATURES:

- Internal urethane bumpers
- Operating pressure up to 100 PSI
- 10,000,000 cycle rating
- Standard internal piston magnet for switch sensing
- Lightweight aluminum design

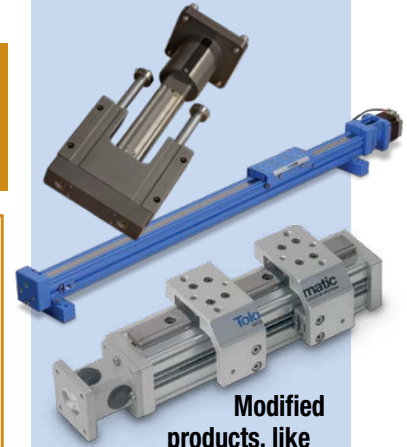
#### OPTIONS:

- Choose composite or linear ball bearings
- Reed or solid state position sensors

#### SPECIFICATIONS:

		20	32
BORE SIZE	in	1.25	2.00
	mm	32	51
MAX. STROKE	in	6	6
	mm	152	152
MAX. FORCE	lbf	122	314
	N	542	1396
MAX. LOAD	lb	48	70
	N	214	311

## MODIFIED PRODUCTS



Modified products, like this actuator, featuring a screw with dual direction threads used in a clamping application, are a regular part of our daily activities.

Modifications include user specified tapped holes, materials, lubricants, coatings, mounting brackets and more.

## CUSTOM PRODUCTS



This actuator, capable of meeting extremely high force challenges in a process control valve application is another custom product designed and built by Tolomatic.

Work with Tolomatic to design a motion product within your space, budget and time requirements.

Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

## GEARBOXES

### SLIDE-RITE® GEARBOX



COMPACT

STANDARD

#### STANDARD FEATURES:

- Designed to slide along the shaft, limited only by the length of the keyway
- One-piece housing, one-piece geared sleeve and sealed bearings eliminate leakage
- Shaft speeds up to 1 200 RPM
- Backlash < 1°
- Pre-lubricated and ready for installation
- Bore sizes: Compact; .5" & .625"  
12 & 15mm  
Standard; .75", 1" & 1.25"  
20, 25 & 30mm

#### OPTIONS:

- Corrosion resistant (CR) option
  - Electroless nickel-plated geared sleeves, keys and retaining rings
  - Stainless-steel bearings
  - Clear anodized aluminum case
- 1:1, 3:2, 2:1 gear ratios

#### SPECIFICATIONS\*

SERIES	RATIO	NO. OF MODELS	ENVELOPE SIZE (in.)
Compact	1:1	12	3.1 x 3.1 x 3.1
Compact-CR	1:1	6	3.1 x 3.1 x 3.1
Standard	1:1	24	3.8 x 5.9 x 3.8
Standard	3:2, 2:1	12, 18	3.8 x 5.9 x 3.8
Standard-CR	1:1	12	3.8 x 5.9 x 3.8

### FLOAT-A-SHAFT® GEARBOX



COMPACT

STANDARD

#### STANDARD FEATURES:

- Designed to slide along the shaft, limited only by the length of the keyway
- Shaft speeds up to 500 RPM
- 3° to 5° of backlash
- Die-cast aluminum gear case, hardened steel gears
- Bore Sizes: Compact; .5", .625", 12mm & 15mm  
Standard; .75", 1", 1.25", 1.5",  
20mm, 25mm & 30mm

#### OPTIONS:

- Flat base and foot mount styles
- 1:1, 3:2, 2:1, 2.5:1 gear ratios
- Low torque journal bearings or high torque roller bearings

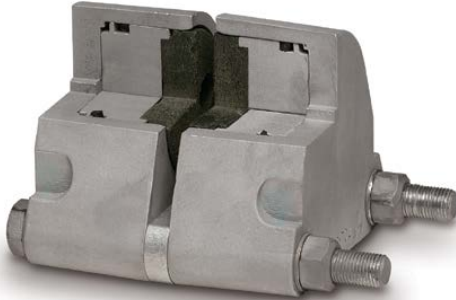
#### SPECIFICATIONS\*

SERIES	RATIOS	NO. OF MODELS	ENVELOPE SIZE (in.)
Compact	1:1	18	2.9 x 3.5 x 3.0
Compact-Foot Mount	1:1	18	3.0 x 3.7 x 3.0
Standard	1:1, 3:2, 2:1	44, 22, 36	3.8 x 6.3 x 4.3
Standard-Flat Base	1:1, 3:2, 2:1	44, 22, 24	3.8 x 6.3 x 4.0
Standard	2.5:1	12	2.9 x 5.1 x 4.2

\*Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

## CALIPER DISC BRAKES

### PNEUMATIC



(CUTAWAY OF DOUBLE ACTING CALIPER PICTURED)

#### STANDARD FEATURES:

- Double acting or single acting
- Replaceable, high-grade friction material
- Aluminum construction with zinc plated bolts, Buna-N seals

#### OPTIONS:

- EPR seals, Viton® seals
- Retractable pistons, floating bracket

#### SPECIFICATIONS\*

	NO. OF MODELS	FRICTION MATERIAL (cu. in.)	TOTAL LINING AREA (sq. in.)	PISTON DIA. (in.)
P10	11	0.46	2.00	1.125
P20	13	0.83	4.00	1.625
P220	12	1.66	8.00	1.625

#### PERFORMANCE OVERVIEW\*

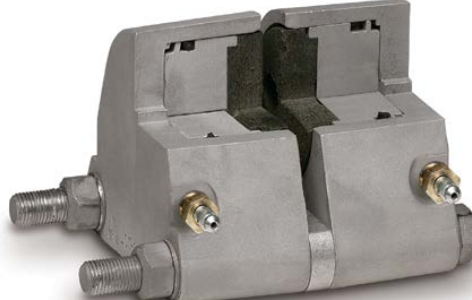
##### DYNAMIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	P10	P20	P220
6.313	174	328	685
8	233	450	907
10	303	594	1184
12	373	738	1463
16	513	1026	2076

##### STATIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	P10	P20	P220
6.313	99	164	343
8	133	225	454
10	173	297	592
12	213	369	732
16	293	513	1038

### HYDRAULIC



(CUTAWAY OF DOUBLE ACTING CALIPER PICTURED)

#### STANDARD FEATURES:

- Double acting or single acting
- Replaceable, high-grade friction material
- Aluminum or cast iron construction with zinc plated bolts, bleeder screws, Buna-N seals

#### OPTIONS:

- EPR seals, Viton® seals
- Retractable pistons, floating bracket

#### SPECIFICATIONS\*

	NO. OF MODELS	FRICTION MATERIAL (cu. in.)	TOTAL LINING AREA (sq. in.)	PISTON DIA. (in.)
H10	14	0.46	2.00	1.125
H20	23	0.83	4.00	1.625
H220	52	1.66	8.00	1.625
H441	4	3.71	9.14	2.50
H960	6	8.00	32.0	3.50

#### PERFORMANCE OVERVIEW\*

##### DYNAMIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	H10	H20	H220	H441	H960
6.313	1737	3285	10282	—	—
8	2328	4500	13608	—	—
10	3028	5940	17755	19539	—
12	3728	7380	21946	24834	45672
16	5128	10260	31147	35424	66432

##### STATIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	H10	H20	H220	H441	H960
6.313	993	1642	5141	—	—
8	1330	2250	6804	—	—
10	1730	2970	8878	11679	—
12	2130	3690	10973	14844	26664
16	2930	5130	15574	21174	38784

### MECHANICAL



(ME20)

#### STANDARD FEATURES:

- Single acting
- Replaceable, high-grade friction material
- Aluminum or cast iron construction with zinc plated bolts

#### OPTIONS:

- Choose from 2 different lever lengths (available on some models)

#### SPECIFICATIONS\*

	NO. OF MODELS	FRICTION MATERIAL (cu. in.)	TOTAL LINING AREA (sq. in.)
ME10	8	0.46	2.00
ME20	12	0.83	4.00
ME220	15	1.66	8.00
MB3	1	6.06	9.69

#### PERFORMANCE OVERVIEW\*

##### DYNAMIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	ME10	ME20	ME220
6.313	3004	2762	11702
8	4024	3782	15488
10	5236	4994	20208
12	6446	6204	24978
16	8866	8624	35452

##### STATIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	ME10	ME20	ME220	MB3
6.313	1502	1381	5851	—
8	2012	1891	7744	—
10	2618	2497	10104	19893
12	3223	3102	12489	24506
16	4433	4312	17726	33733

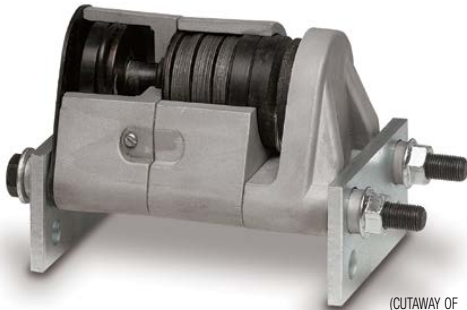
\*Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

# TRANSMISSION



## PLANETARY ROLLER SCREWS

### SPRING APPLIED/HYDRAULIC RELEASE



(CUTAWAY OF FS20 CALIPER PICTURED)

#### STANDARD FEATURES:

- Braking is applied when hydraulic pressure is released
- Single acting with Belleville® spring washers
- Replaceable, high-grade friction material
- Aluminum or cast iron construction with zinc plated bolts, Buna-N seals

#### OPTIONS:

- EPR seals
- Manual lining wear compensators

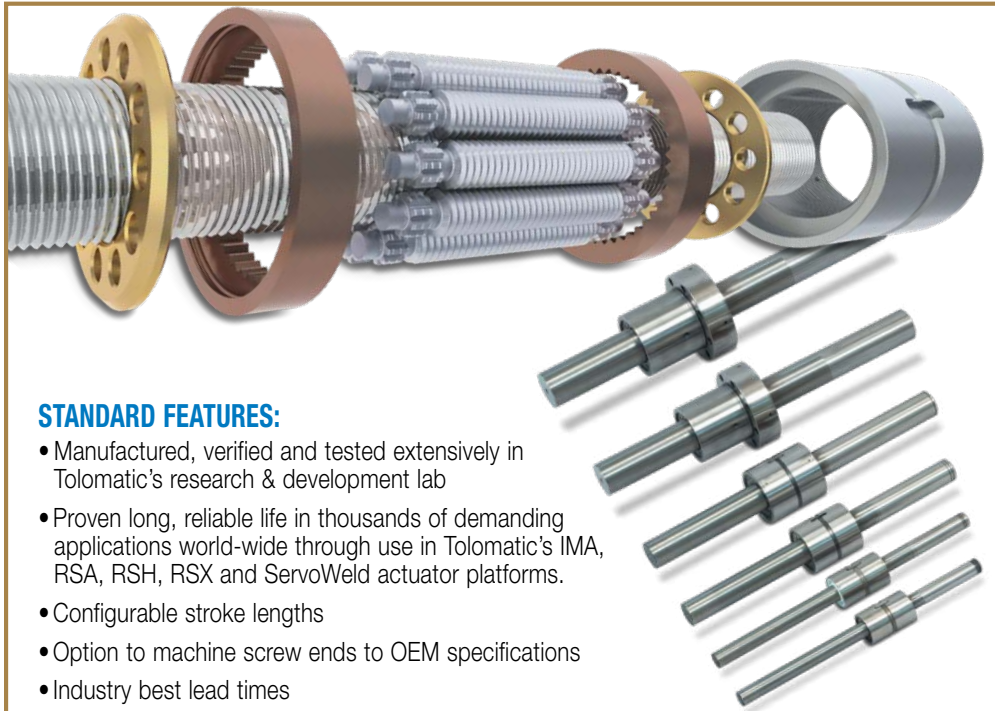
#### SPECIFICATIONS\*

	NO. OF MODELS	FRICTION MATERIAL (cu. in.)	TOTAL LINING AREA (sq. in.)
FS20	6	0.83	4.00
FS220	24	1.66	8.00
FS595	8	4.57	9.14

#### PERFORMANCE OVERVIEW\*

##### STATIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	FS20	FS220B	FS220C	FS595	FS595 DUAL
6.313	1061	2213	4522	—	—
8	1453	2930	5985	—	—
10	1918	3822	7809	—	—
12	2383	4724	9652	—	—
16	3313	6705	13699	31046	62093



#### STANDARD FEATURES:

- Manufactured, verified and tested extensively in Tolomatic's research & development lab
- Proven long, reliable life in thousands of demanding applications world-wide through use in Tolomatic's IMA, RSA, RSH, RSX and ServoWeld actuator platforms.
- Configurable stroke lengths
- Option to machine screw ends to OEM specifications
- Industry best lead times

#### ADVANTAGES OF ROLLER SCREWS:

- Capable of handling heavy loads, planetary roller screws contain precision ground rollers engaged with a precision ground screw and nut. When compared with a ball screw of the same size and lead, the roller screw components are designed to increase points of contact and a larger contact radius. This results in less stress per point of contact and allows roller screws to carry higher loads.

#### SPECIFICATIONS

CONFIGURATION	SCREW SIZE	LEAD	MAX. STROKE
		mm	mm
15.04	15	4	699.0
15.05	15	5	699.0
15.10	15	10	699.0
20.04	20	4	1036.2
20.05	20	5	1036.2
20.10	20	10	1036.2
30.05	30	5	980.2
30.10	30	10	980.2
36.05	36	5	954.5
36.10	36	10	954.5
39.10	39	10	911.5
48.12	48	12	830.7
63.10	63	10	737.0

Dimensions in millimeters

CONFIGURATION	SCREW SIZE	LEAD	MAX. STROKE
		in	in
15.04	15	0.157	27.52
15.05	15	0.197	27.52
15.10	15	0.394	27.52
20.04	20	0.157	40.80
20.05	20	0.197	40.80
20.10	20	0.394	40.80
30.05	30	0.197	38.59
30.10	30	0.394	38.59
36.05	36	0.197	37.58
36.10	36	0.394	37.58
39.10	39	0.394	35.89
48.12	48	0.472	32.70
63.10	63	0.394	29.02

Dimensions in inches

# Long Lasting, Precision Roller Screw Electric Actuators

### IMA

- Integrated Servo Motor
- High Performance
- Compact Rugged Design

### RSA

- Pneumatic & Hydraulic Replacement

### SWA

### TRS

- Highly Rigid Twin Rail Stage Design

### CSWX

- Integrated Servo Motor
- Resistance Spot Welding
- Robot Integration & Motor Files

### RSH

- Hygienic, Stainless Steel, IP69K
- Ideal for Food & Beverage, Processing Applications

### RSX

- Extreme Force
- Hydraulic Replacement

**Planetary Roller Screws**  
*by Tolomatic*



MADE IN U.S.A.

# Tolomatic™

EXCELLENCE *IN* MOTION

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
= ISO 9001 =  
Certified site: Hamel, MN

#### USA - Headquarters

**Tolomatic Inc.**  
3800 County Road 116  
Hamel, MN 55340, USA  
**Phone:** (763) 478-8000  
Toll-Free: **1-800-328-2174**  
sales@tolomatic.com  
[www.tolomatic.com](http://www.tolomatic.com)

#### MEXICO

**Centro de Servicio**  
Parque Tecnológico Innovación  
Int. 23, Lateral Estatal 431,  
Santiago de Querétaro,  
El Marqués, México, C.P. 76246  
**Phone:** +1 (763) 478-8000  
help@tolomatic.com

#### EUROPE

**Tolomatic Europe GmbH**  
Elisabethenstr. 20  
65428 Rüsselsheim  
Germany  
**Phone:** +49 6142 17604-0  
help@tolomatic.eu  
[www.tolomatic.com/de-de](http://www.tolomatic.com/de-de)

#### CHINA

**Tolomatic Automation Products  
(Suzhou) Co. Ltd.**  
No. 60 Chuangye Street, Building 2  
Huqiu District, SND Suzhou  
Jiangsu 215011 - P.R. China  
**Phone:** +86 (512) 6750-8506  
Tolomatic\_China@tolomatic.com

All brand and product names are trademarks or registered trademarks of their respective owners. Information in this document is believed accurate at time of printing. However, Tolomatic assumes no responsibility for its use or for any errors

that may appear in this document. Tolomatic reserves the right to change the design or operation of the equipment described herein and any associated motion products without notice. Information in this document is subject to change without notice.

Visit [www.tolomatic.com](http://www.tolomatic.com) for the most up-to-date technical information