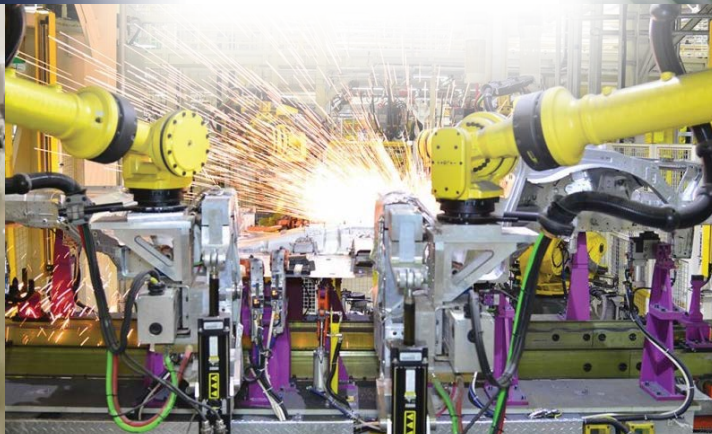
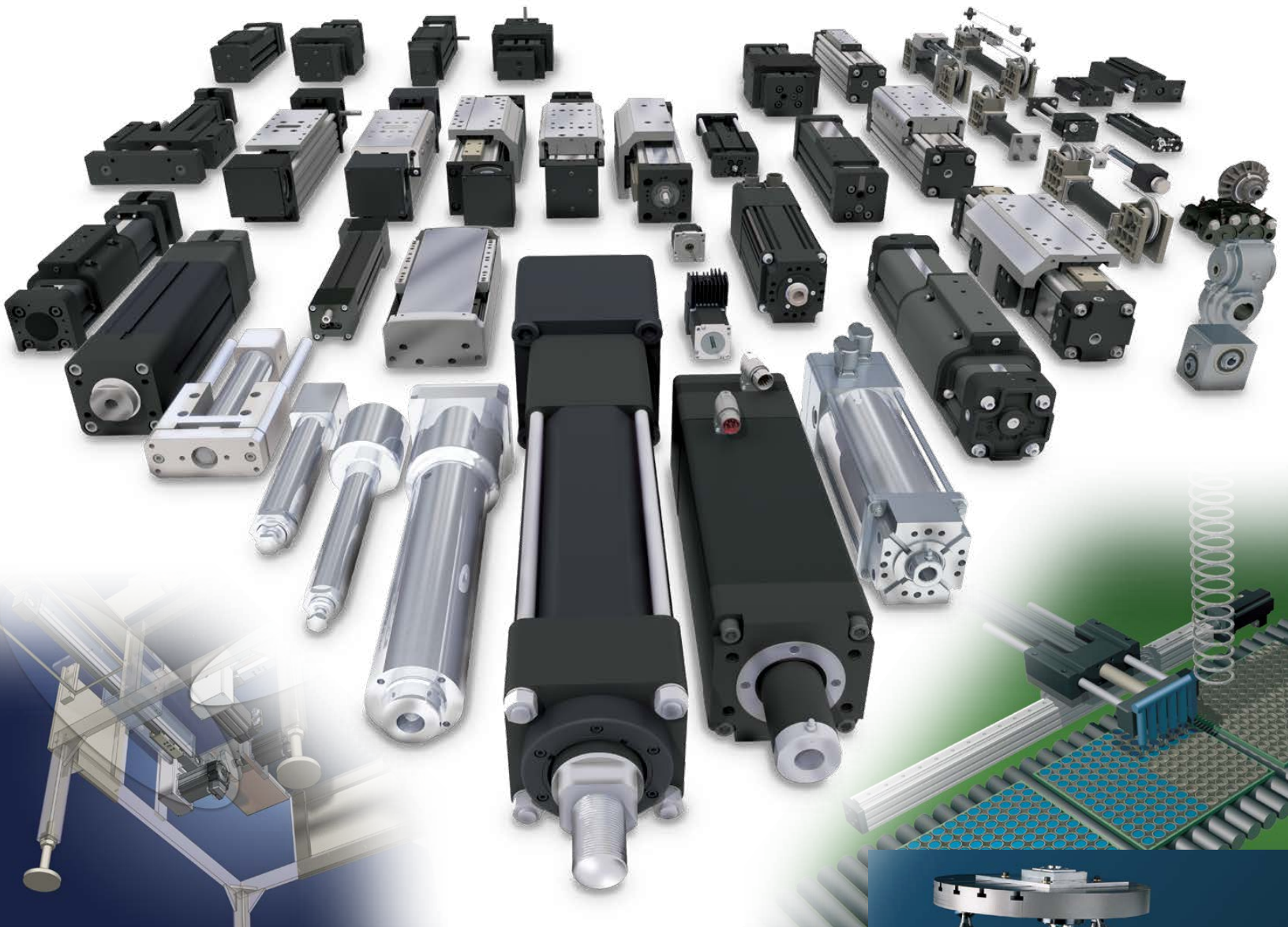


# CORPORATE OVERVIEW





*Growth powered by innovation  
Service exceeding customer expectations*

### 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
- Invented Cable Cylinders – world's first rodless pneumatic cylinder



### 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



### MOTION CONTROL & ELECTRIC ACTUATORS

Since the 1990's, Tolomatic responded to industry demands for improved accuracy, repeatability, and efficiency as well as more advanced motion control technology.

- Products designed for pneumatic & hydraulic replacement
- World's first USDA approved, stainless steel, IP69k, hygienic actuators
- Compact, power dense, high performance integrated servo actuators
- 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



### COMPACT, HIGH PERFORMANCE INTEGRATED SERVO ACTUATORS

- ServoWeld® - Innovative design developed for Automotive industry
- Widest range of integrated models to meet specific industry needs



### SMART ACTUATION SOLUTIONS

- Complete single axis actuator solutions with integrated servo motor
- Pre-configured, pre-tuned, tested and available with most popular Ethernet protocols



### PLANETARY ROLLER SCREW DESIGNS

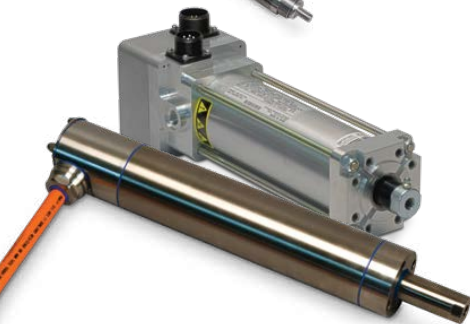
- Full in-house production for industry leading delivery and rigorous quality control

### CONTINUOUS INVESTMENTS TO SERVE CUSTOMERS

Tolomatic continues to invest in facilities, processes, equipment and people to serve a broad array of customers.

- Quality system certified to ISO 9001:2015 standard
- Corporate headquarters and factory in suburban Minneapolis, MN
- Extensive machine shop, prototype testing lab
- Facilities in China, Europe and Mexico

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

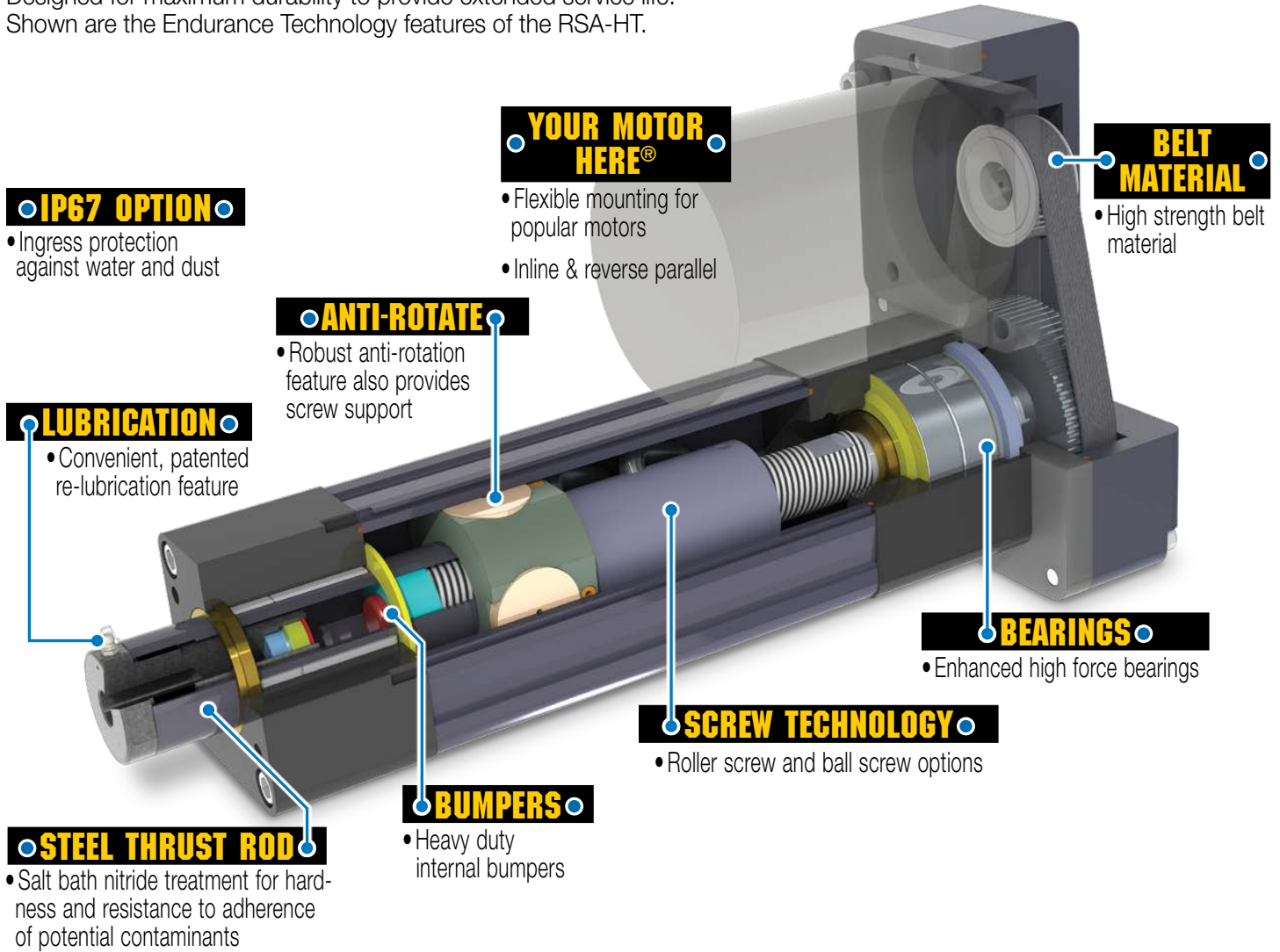


# in solving customer needs.

## Tolomatic's Design Philosophy:

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

Designed for maximum durability to provide extended service life. Shown are the Endurance Technology features of the RSA-HT.



#### IP67 OPTION

- Ingress protection against water and dust

#### YOUR MOTOR HERE<sup>®</sup>

- Flexible mounting for popular motors
- Inline & reverse parallel

#### BELT MATERIAL

- High strength belt material

#### ANTI-ROTATE

- Robust anti-rotation feature also provides screw support

#### LUBRICATION

- Convenient, patented re-lubrication feature

#### BEARINGS

- Enhanced high force bearings

#### SCREW TECHNOLOGY

- Roller screw and ball screw options

#### STEEL THRUST ROD

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

#### BUMPERS

- Heavy duty internal bumpers

*Tolomatic makes it easy to select the right product for most applications*

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



CONTACT AN ENGINEER



ACTUATOR SIZING



CAD LIBRARY



YOUR MOTOR HERE<sup>®</sup>



ELECTRIC ACTUATORS E-BOOK

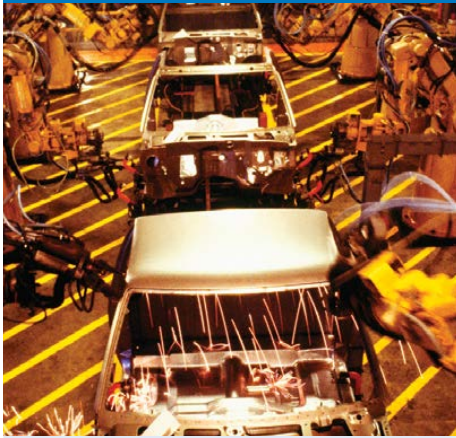


TOLOMATIC IPAD APP

# 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



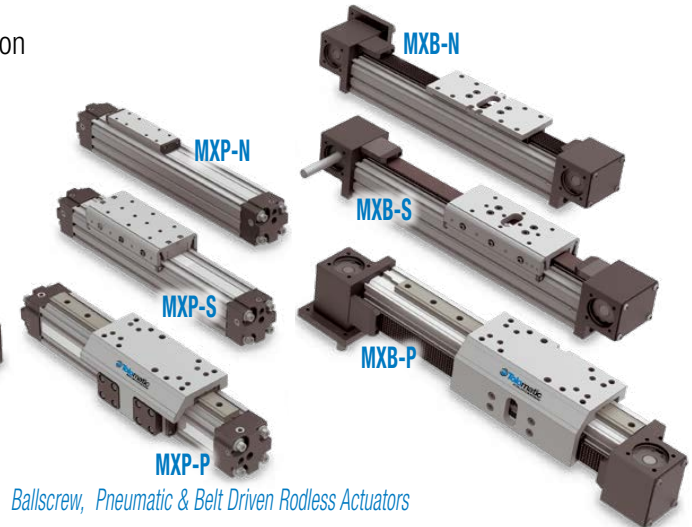
## FOOD & BEVERAGE



Volumetric Filling, Pumping, Cutting, Slicing, Sorting



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



## PACKAGING



Positioning, Sealing, Forming, Pressing, Palletizing, Filling

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

## 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

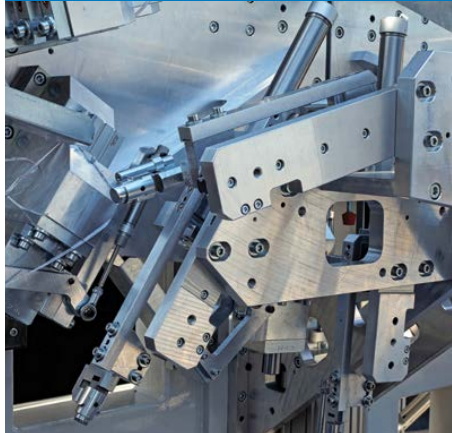
# for Most Industries and Applications

## SAWMILL / TIMBER



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



*ERD 10-20 Economical, Pneumatic  
Class Electric Actuators*

*RSX High Force,  
Hydraulic Class  
Electric Actuators*



- Roller Screw Driven
- Reliable Long Life
- Robust Design

## ANIMATION & ENTERTAINMENT



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

### 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	06	10	15	20
MAX. STROKE	in	8	10	24	24
	mm	203	254	609	609
MAX. FORCE	lbf	20	100	200	500
	N	89	445	890	2224
MAX. SPEED	in	40	40	40	20
	per sec mm	1016	1016	1016	508

- Patented



#### SOLUTION FOR:

- Pneumatic & hydraulic replacement
- Food & beverage processing

#### STANDARD FEATURES:

- Full Stainless steel construction
- Roller, Ball or Acme screw driven
- Your Motor Here® flexible inline or reverse parallel motor mounting

#### OPTIONS:

- Stainless steel protective motor enclosure
- IP69k ingress protection
- Internal anti-rotate
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	ERD	10	15	20	22	25	30
MAX. STROKE	in	10	24	24	39.4	39.4	39.4
	mm	254	609	609	1000	1000	1000
MAX. FORCE	lbf	100	200	500	1700	4159	7868
	N	445	890	2224	7562	18500	34999
MAX. SPEED	in	40	40	20	50	58	58
	per sec mm	1016	1016	508	1270	1473	1473

- 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	123	123	50	50	50	58
	per sec mm	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
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

#### SPECIFICATIONS:

	RSX	080	096	P096
MAX. STROKE	in	59.1	59.1	17.7
	mm	1500	1500	450
MAX. FORCE	lbf	18000	30000	40000
	kN	80.1	133.5	178
MAX. SPEED	in	27.6	29.9	29.9
	per sec mm	700	760	760

# 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 driv 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	18
	mm	305	457	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-ST 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-ST	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



### GSWA\*

#### 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		GSWA		
		3	4	33	44/04	55
MAX. STROKE	in	6	12	18	18/6	18
	mm	152	305	457	457/152	457
MAX. FORCE	lbf	2500	4950	2100	3300	5500
	kN	11.1	22.0	9.3	14.7	24.5
MAX. SPEED	in	23	23	24	23	15.7
	per sec mm	584	584	610	584	399

\*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® 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	178	125						
	mm	787	3404	3378	3327	4521	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® 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



**TKS 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
- Ball screw driven
- Inline or reverse-parallel motor mount

**OPTIONS:**

- Auxiliary carrier
- Reed, solid state PNP or NPN switches

**SPECIFICATIONS:**

		TKS	10	25	75
<b>MAX. STROKE</b>	in	96	96	96	
	mm	2438	2438	2438	
<b>MAX. FORCE</b>	lbf	230	1590	3260	
	N	1023	7073	14501	
<b>*MAX. LOAD</b>	lb	100	250	750	
	N	445	1112	3336	
<b>MAX. SPEED</b>	in	30	30	40	
	per sec	mm	762	762	1016

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



# MOTION PRODUCTS

FAST DELIVERY  
BUILT-TO-ORDER

## 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 PROFILED RAIL BEARING

### 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	200	200	200	160	100
	mm 5080	5080	5080	5080	4064	2540
<b>MAX. FORCE</b>	lbf 38	151	209	250	325	418
	N 169	672	930	1112	1446	1859
	16S	16P	25S	25P	32S	32P
<b>*MAX. LOAD</b>	lb 35	217	70	449	150	569
	N 156	966	311	1996	667	2531
<b>MAX. SPEED</b>	in/sec MXB-U = 200	in/sec MXB-S = 100	in/sec MXB-P = 150			
	mm/sec MXB-U = 5080	mm/sec MXB-S = 2540	mm/sec MXB-P = 3810			

\*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 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 207	204	156	
	mm 5258	5182	3962	
<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 per sec 3988	5080	5080	

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

## DRIVES & MOTORS

### ACSI INTEGRATED MOTOR/DRIVE/CONTROLLER



CE EtherNet/IP ODVA CONFORMANT Modbus EtherCAT

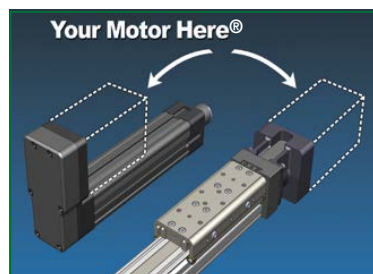
#### STANDARD FEATURES:

- Integrated servo motor/drive
- NEMA 23 & 34 frame sizes
- Single axis smart actuation solution
- Mounted, configured, tuned & tested as an actuator system
- Dual Ethernet ports: EtherNet/IP™, ProfiNET®, EtherCAT & Modbus TCP
- 10-60 VDC

### ACS SERVO & STEPPER DRIVES



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

### 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

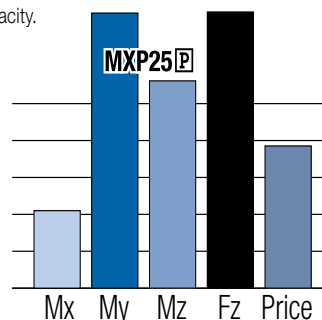
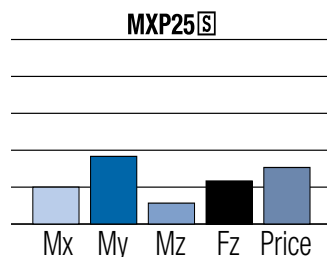
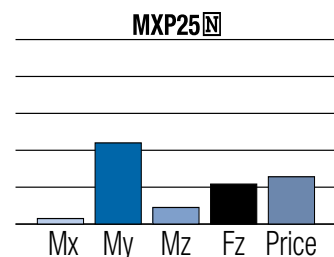
#### COMMON OPTIONS:

- 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</b>	in 0.63	1.00	1.25	1.50	2.00	2.50												
<b>SIZE</b>	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

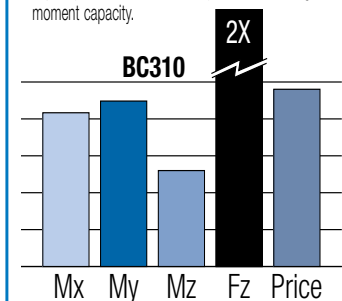
\*Auxiliary carrier doubles the load capacity and also increases My and Mz bending moment capacity.



#### SPECIFICATIONS:

	10	15	20
<b>BORE</b>	in 1.00	1.50	2.00
<b>SIZE</b>	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.



Graphs are general performance comparisons between cylinders of similar (1" bore) sizes with 12" stroke. Maximum force is based on air pressure of

# ACTUATORS



## CYLINDERS

## CABLE 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:

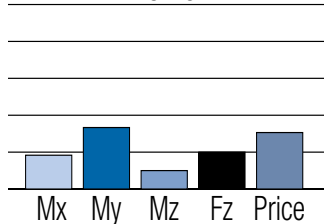
- Auxiliary carrier
- Four ported head
- Floating mount
- Foot mount
- Tube support
- Adjustable shock absorbers
- Reed or solid state position sensors
- Metric or US Standard mounting

#### SPECIFICATIONS:

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

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

### BC210



### 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

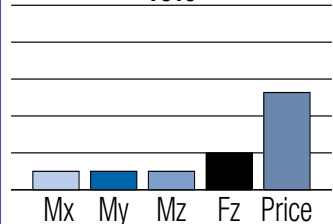
#### OPTIONS:

- 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</b> in	0.50	0.75	1.00	1.50
<b>SIZE</b> mm	13	19	25	38
<b>MAX.</b> in	67	78	78	78
<b>STROKE</b> mm	1702	1981	1981	1981
<b>MAX.</b> lbf	19	43	78	174
<b>FORCE</b> N	85	191	347	774
<b>MAX.</b> lb	60	60	60	15
<b>LOAD</b> N	267	267	267	67

### TC10



### 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

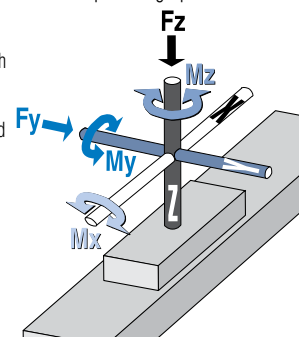
#### SPECIFICATIONS:

	CC	05	07	10	15	20	25	30	40	50	52
<b>BORE</b> in	0.50	0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00	2.00	
<b>SIZE</b> mm	13	19	25	38	51	64	76	102	127	51	
<b>MAX.</b> in	54	138	282	280	281	281	280	279	134	280	
<b>STROKE</b> mm	1372	3505	7163	7112	7137	7137	7112	7087	3404	7112	
<b>MAX.</b> lbf	19	43	78	174	618	972	1398	1249	1919	1532	
<b>FORCE</b> N	85	191	347	774	2749	4324	6219	5556	8536	6815	

### BENDING MOMENTS DIAGRAM

Reference for all comparison graphs

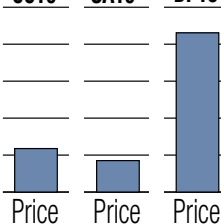
- Mx = Roll
- My = Pitch
- Mz = Yaw
- Fz = Load



### CC10

### SA10

### DP15



100 PSI. See [www.tolomatic.com](http://www.tolomatic.com) for complete performance information.

# PNEUMATIC ACTUATORS

## (CONTINUED)



### 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

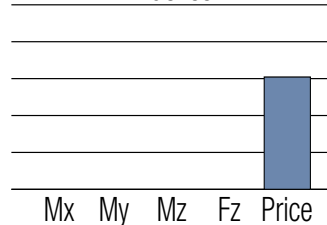
##### OPTIONS:

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

##### SPECIFICATIONS:

		025	038	062	100
<b>BORE</b>	in	0.25	0.38	0.62	1.00
<b>SIZE</b>	mm	6	10	16	25
<b>MAX.</b>	in	26	32	39	56
<b>STROKE</b>	mm	660	813	991	1422
<b>MAX.</b>	lbf	5	11	30	78
<b>FORCE</b>	N	22	49	133	347
<b>MAGNETIC</b>	lb	5	14	38	100
<b>STRENGTH</b>	N	22	62	169	445

MGC100



##### 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

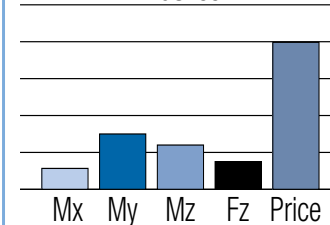
##### OPTIONS:

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

##### SPECIFICATIONS:

		038	062	100
<b>BORE</b>	in	0.38	0.63	1.00
<b>SIZE</b>	mm	10	16	25
<b>MAX.</b>	in	30	60	80
<b>STROKE</b>	mm	762	1524	2032
<b>MAX.</b>	lbf	11	30	78
<b>FORCE</b>	N	49	133	347
<b>MAX.</b>	lb	14	40	90
<b>LOAD</b>	N	62	178	400

MGS100



#### 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 150 PSI
- 10,000,000 cycle rating
- Standard internal piston magnet for switch sensing
- Lightweight aluminum design

##### OPTIONS:

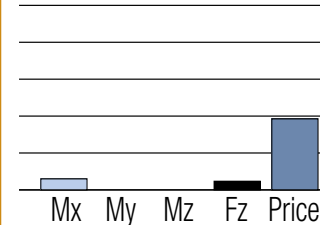
- Choose composite or linear ball bearings
- Reed or solid state position sensors

##### SPECIFICATIONS:

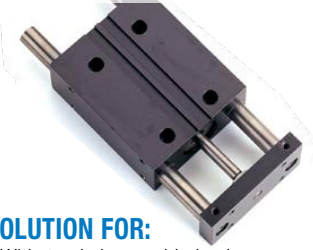
		10	17	20	32
<b>BORE</b>	in	0.63	1.06	1.25	2.00
<b>SIZE</b>	mm	16	27	32	51
<b>MAX.</b>	in	4	6	6	6
<b>STROKE</b>	mm	102	152	152	152
<b>**MAX.</b>	lbf	46	132	184	471
<b>FORCE</b>	N	205	587	818	2095
<b>MAX.</b>	lb	16	38	48	70
<b>LOAD</b>	N	71	169	214	311

\*\* Maximum force at 150 PSI

PB217



##### PB POWER-BLOCK SLIDE



##### SOLUTION FOR:

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

##### STANDARD FEATURES:

- Internal urethane bumpers
- Composite bearings
- Standard internal piston magnet for switch sensing
- Lightweight aluminum design

##### OPTIONS:

- Stop collars and bumpers
- Dual tooling plate option
- Reed or solid state position sensors

##### SPECIFICATIONS:

		17	20
<b>BORE</b>	in	1.06	1.25
<b>SIZE</b>	mm	27	32
<b>MAX.</b>	in	3	3
<b>STROKE</b>	mm	76	76
<b>MAX.</b>	lbf	88	123
<b>FORCE</b>	N	391	547
<b>MAX.</b>	lb	20	25
<b>LOAD</b>	N	76	89

#### BENDING MOMENTS DIAGRAM

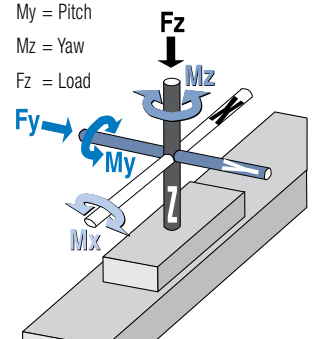
Reference for all comparison graphs

Mx = Roll

My = Pitch

Mz = Yaw

Fz = Load



Graphs are general performance comparisons between cylinders of similar (1" bore) sizes with 12" stroke (PB2 6" stroke).

Maximum force is based on air pressure of 100 PSI (PB2 rated up to 150 PSI). See [www.tolomatic.com](http://www.tolomatic.com) for complete performance information.

# POWER TRANSMISSION



## 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 1200 RPM
- Backlash < 1°
- Pre-lubricated and ready for installation
- Bore sizes: Compact; .5" & .625"  
12 & 15mm  
Standard; .75", 1" & 1.25"  
20, 25 & 30mm

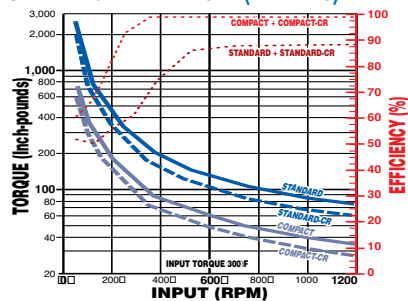
#### OPTIONS:

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

#### TORQUE AND EFFICIENCY vs RPM AT MAXIMUM OPERATING TEMPERATURE (1:1 RATIO)\*



### 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

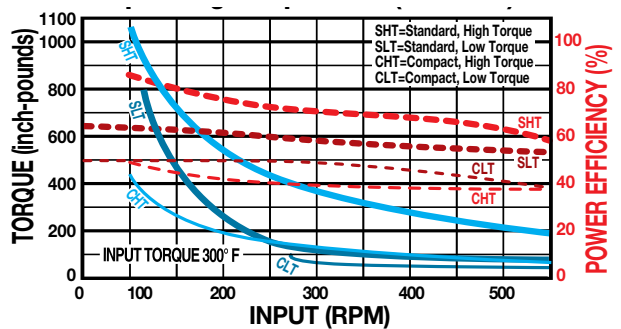
#### OPTIONS:

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

#### SPECIFICATIONS\*

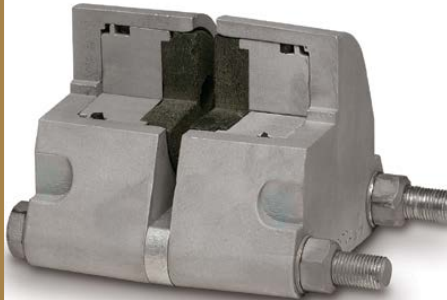
SERIES	RATIOS	NO. OF MODELS	ENVELOPE SIZE (in.)
Compact	1:1	18	2.9 x 3.5 x 3.0
Compact-Foot Mount	1:1	18	3.0 x 3.7 x 3.0
Standard	1:1, 3:2, 2:1	44, 22, 36	3.8 x 6.3 x 4.3
Standard-Flat Base	1:1, 3:2, 2:1	44, 22, 24	3.8 x 6.3 x 4.0
Standard	2.5:1	12	2.9 x 5.1 x 4.2

#### TORQUE AND EFFICIENCY vs RPM AT MAXIMUM OPERATING TEMPERATURE (1:1 RATIO)\*



\*NUMBERS ARE FOR GENERAL COMPARISONS ONLY. Not all models deliver maximum values listed. See catalog or contact Tolomatic for complete specifications.

### 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	FRICION 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\*

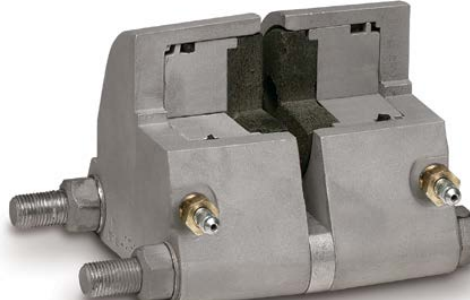
##### DYNAMIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	P10	P20	P220
6.313	174	328	685
8	233	450	907
10	303	594	1,184
12	373	738	1,463
16	513	1,026	2,076

##### 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	1,038

### 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	FRICION 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	1,737	3,285	10,282	—	—
8	2,328	4,500	13,608	—	—
10	3,028	5,940	17,755	19,539	—
12	3,728	7,380	21,946	24,834	45,672
16	5,128	10,260	31,147	35,424	66,432

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

DISC DIA. (in.)	H10	H20	H220	H441	H960
6.313	993	1,642	5,141	—	—
8	1,330	2,250	6,804	—	—
10	1,730	2,970	8,878	11,679	—
12	2,130	3,690	10,973	14,844	26,664
16	2,930	5,130	15,574	21,174	38,784

### 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	FRICION 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	3,004	2,762	11,702
8	4,024	3,782	15,488
10	5,236	4,994	20,208
12	6,446	6,204	24,978
16	8,866	8,624	35,452

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

DISC DIA. (in.)	ME10	ME20	ME220	MB3
6.313	1,502	1,381	5,851	—
8	2,012	1,891	7,744	—
10	2,618	2,497	10,104	19,893
12	3,223	3,102	12,489	24,506
16	4,433	4,312	17,726	33,733

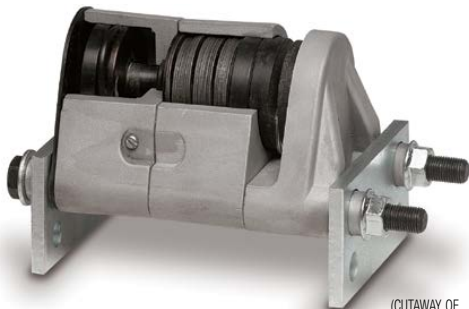
\*NUMBERS ARE FOR GENERAL COMPARISONS ONLY. Not all models deliver maximum

# TRANSMISSION

## (CONTINUED)

### BRAKES

#### 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	1,061	2,213	4,522	—	—
8	1,453	2,930	5,985	—	—
10	1,918	3,822	7,809	—	—
12	2,383	4,724	9,652	—	—
16	3,313	6,705	13,699	31,046	62,093

Sold & Serviced By:



Toll Free Phone (877) SERV098

www.electromate.com

sales@electromate.com

#### DISCS



(0802-0020)

#### STANDARD FEATURES:

- Carbon 1010 steel, flatness within 0.010"
- Stress relieved, blanchard ground to an 80 (RMS) microinch finish
- Socket head cap screw fasteners, keyway set screws

#### MODELS

MODEL	NO. OF MODELS
HUB & DISC ASSEMBLY	29
HUB & DISC ASSEMBLY w/ QUICK DISCONNECT BUSHINGS	100
QUICK DISCONNECT BUSHINGS	66
ONE-PIECE HUB & DISC	2
BLANK DISC	5
DISC w/ BOLT CIRCLES & PILOT HOLE	6

#### INTENSIFIER



(1770-0000)

#### INPUT:

Pneumatic pressure max.: 100 PSI

Piston seal: U-cup design

Cylinder material: Hard coated aluminum

Input to output ratio: 1:10

#### OUTPUT:

Hydraulic pressure max.: 1,000 PSI

Hydraulic fluid displacement: 0.44 cu. in.

Cylinder seal: O-ring, Buna-N, opt. EPR

Cylinder material: Aluminum

1/8 NPT Port: Standard



### PLANETARY ROLLER SCREW SPECIFICATIONS:

CONFIG.	SCREW SIZE	LEAD	MAX. STROKE	*MAX. FORCE	DLR (C)	SLR (CO)
		mm	mm	kN	kN	kN
15.04	15	4	800.69	12.9	41.1	38.7
15.05	15	5	800.69	11.6	53.6	34.9
15.10	15	10	800.69	15.8	47.2	47.3
20.04	20	4	1036.22	28.0	67.2	83.9
20.05	20	5	1036.22	23.6	73.3	70.9
20.10	20	10	1036.22	24.7	76.4	74.0
30.05	30	5	1691.37	34.9	65.5	104.6
30.10	30	10	1691.37	35.0	116.1	105.0
36.05	36	5	1665.67	58.4	96.6	175.3
36.10	36	10	1665.67	53.4	160.8	160.1
39.10	39	10	1622.67	71.4	182.7	214.3
48.12	48	12	1565.72	161.9	269.3	485.6

Lead Accuracy: 0.01 mm/300 mm Backlash: 0.03 mm

\*Max Force is guidance for achieving maximum life.

Consult Tolomatic for higher force

CONFIG.	SCREW SIZE	LEAD	MAX. STROKE	*MAX. FORCE	DLR (C)	SLR (CO)
		in	in	lbf	lbf	lbf
15.04	15	0.157	31.52	2,900	9,240	8,700
15.05	15	0.197	31.52	2,615	12,050	7,846
15.10	15	0.394	31.52	3,544	10,611	10,633
20.04	20	0.157	40.80	6,287	15,107	18,861
20.05	20	0.197	40.80	5,313	16,478	15,939
20.10	20	0.394	40.80	5,545	17,175	16,636
30.05	30	0.197	66.59	7,838	14,725	23,515
30.10	30	0.394	66.59	7,868	26,100	23,605
36.05	36	0.197	65.58	13,136	21,716	39,409
36.10	36	0.394	65.58	11,997	36,149	35,992
39.10	39	0.394	63.88	16,059	41,072	48,176
48.12	48	0.472	61.64	36,389	60,541	109,167

Lead Accuracy: 0.0004 in/ft Backlash: 0.0012 in

values listed. See catalog or contact Tolomatic for complete specifications.

# Long Lasting, Precision Roller Screw Electric Actuators



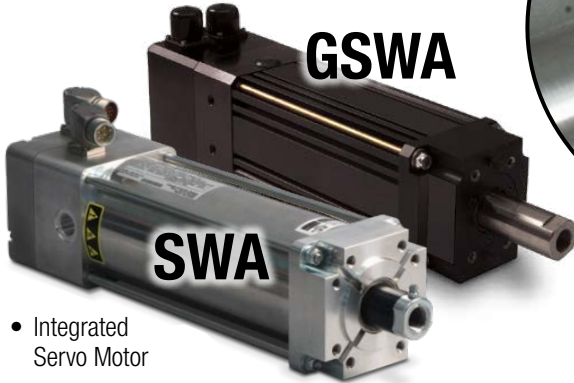
**IMA**

- Integrated Servo Motor
- High Performance
- Compact Rugged Design



**RSA**

- Pneumatic & Hydraulic Replacement
- Your Motor Here® Flexible Motor Mounting



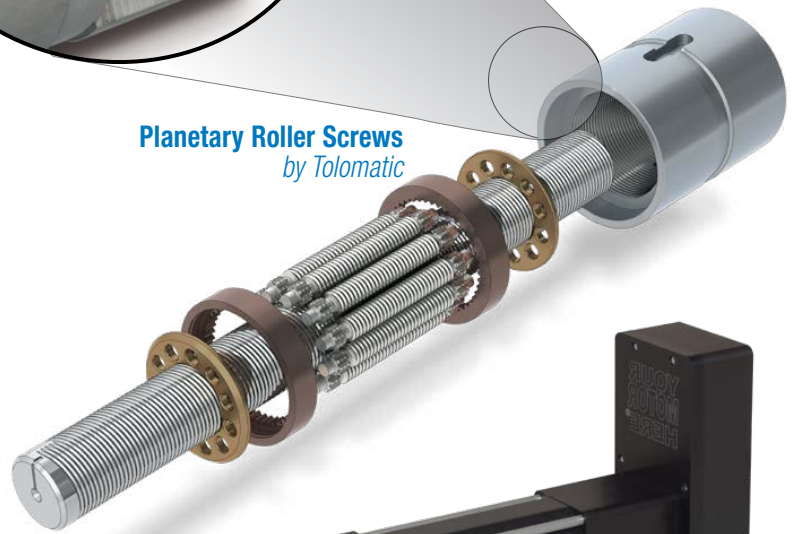
**GSWA**

**SWA**

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



Planetary Roller Screws  
by Tolomatic



**ERD**

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



**RSX**

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