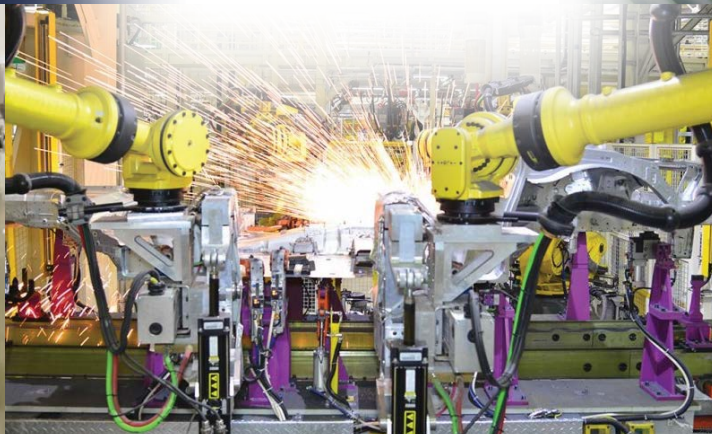
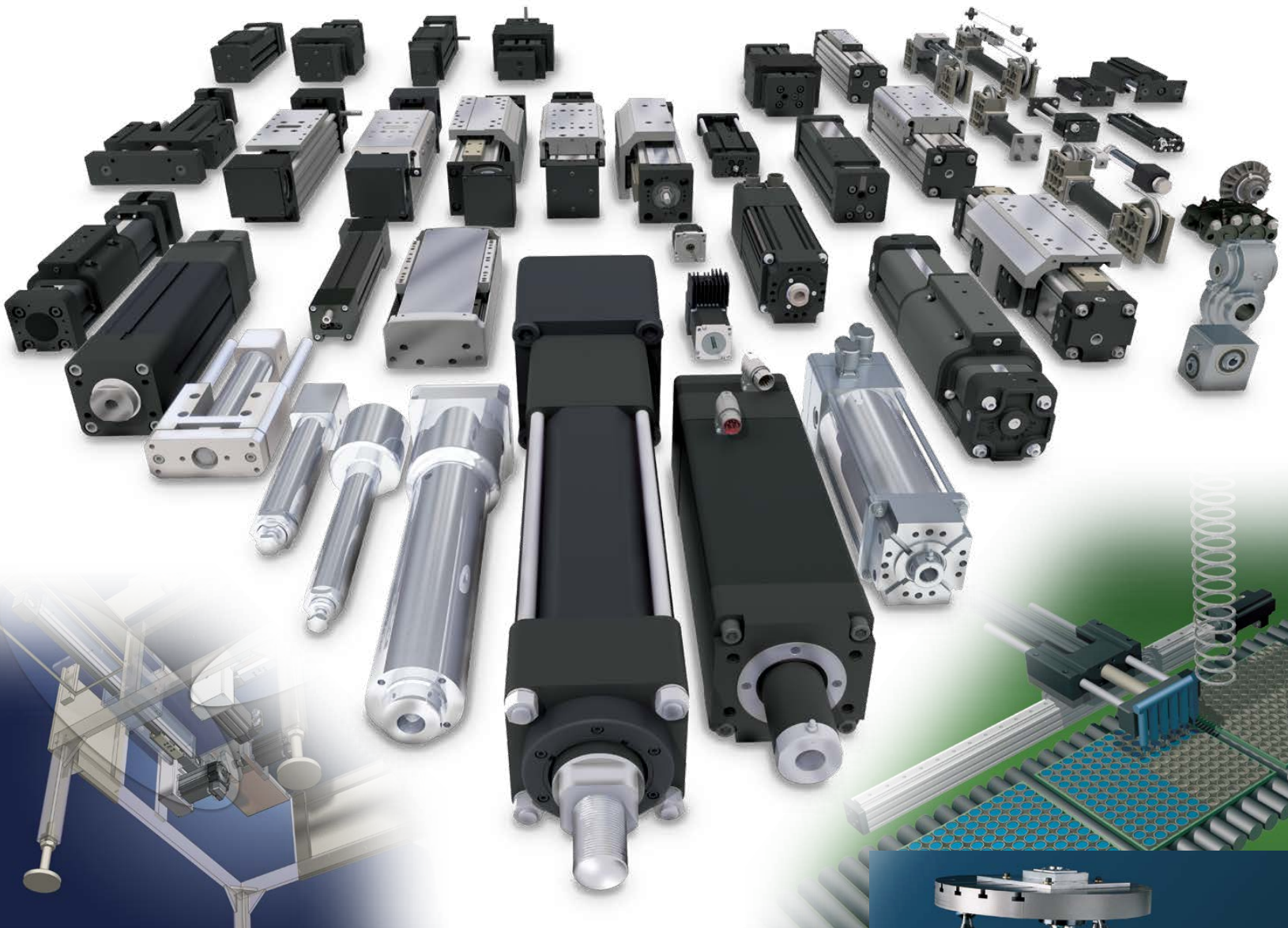


CORPORATE OVERVIEW



LINEAR MOTION SOLUTIONS

Tolomatic™ A legacy of innovation

EXCELLENCE IN MOTION

*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

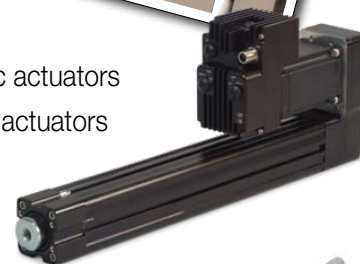
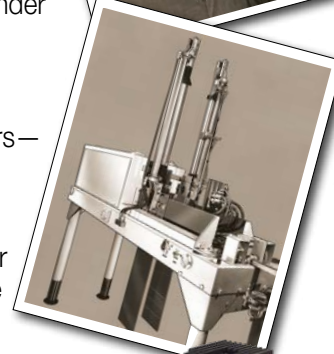
- Full in-house production for industry leading delivery and rigorous quality control

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 TECHNOLOGYSM

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[®]

- 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

BUMPERS

- Heavy duty internal bumpers

STEEL THRUST ROD

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

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

Engineering Tools on www.tolomatic.com



CONTACT AN
ENGINEER



ACTUATOR
SIZING



CAD
LIBRARY



YOUR MOTOR
HERE[®]



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



SWA ServoWeld® Actuator



IMA Integrated Servo Actuator

FOOD & BEVERAGE

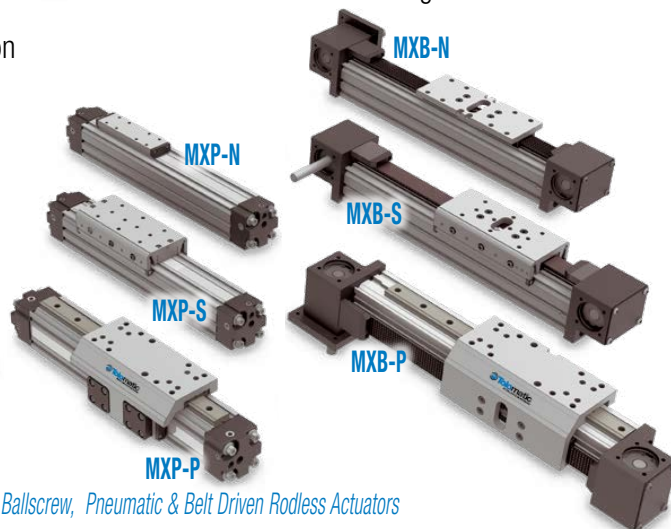


Volumetric Filling, Pumping, Cutting, Slicing, Sorting



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

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



Ball screw, 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

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

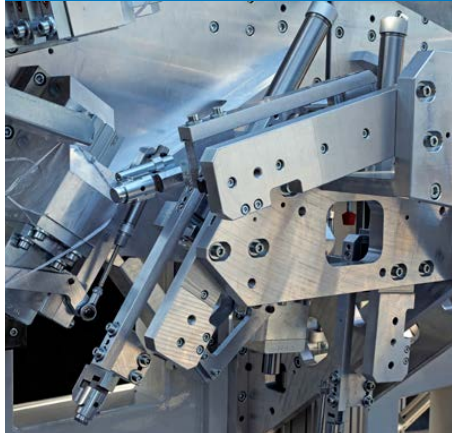
for Most Industries and Applications

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

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
	N	445	890	2224
MAX. SPEED	in per sec	40	40	20
	mm per sec	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:

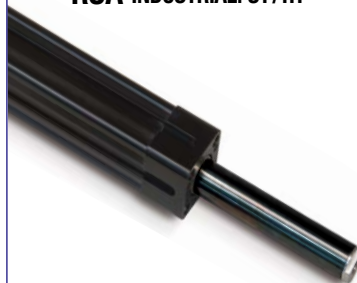
- Stainless steel protective motor enclosure
- IP69k ingress protection
- Internal anti-rotate
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

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 per sec	40	40	20	50	58	58
	mm per sec	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 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
- Metric mounting and rod-end accessories
- Reed, solid state PNP or NPN switches, quick-connect available

SPECIFICATIONS:

	RSX	080	096	096P	128
MAX. STROKE	in	35.03	31.49	17.71	26.18
	mm	890	800	450	665
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

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 per sec	123	123	50	50
	mm per sec	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	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 per sec	28	48	24	52.5	23	31.4	15.7
	mm per sec	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	Ball	Roller	Roller
MAX. STROKE	in	12	18	18	12
	mm	305	457	457	305
MAX. FORCE	lbf	325	1000	2500	2500
	kN	1.45	4.45	11.1	11.1
MAX. SPEED	in per sec	19.6	19.6	19.6	19.6
	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 per sec	23	23	24	23	15.7
	mm per sec	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	
MAX. STROKE	in	31		134		133		131		178		125	
	mm	787		3404		3378		3327		4521		3175	
MAX. FORCE	lbf	45		170		170		800		2700		4300	
	N	200		756		756		3559		12010		19127	
MAX. SPEED	in	42		60		60		60		60		50	
	per sec	1067		1524		1524		1524		1524		1270	
		16S	16P	25S	25P	32S	32P	40S	40P	50S	50P	63S	63P
*MAX. LOAD	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
MAX. STROKE	in	136	133	131	
	mm	3454	3378	3337	
MAX. FORCE	lbf	170	800	2700	
	N	756	3559	12010	
*MAX. LOAD	lb	591	1454	2008	
	N	2629	6468	8932	
MAX. SPEED	in	60	60	60	
	per sec	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
MAX. STROKE	in	96	96	96	
	mm	2438	2438	2438	
MAX. FORCE	lbf	230	1590	3260	
	N	1023	7073	14501	
*MAX. LOAD	lb	100	250	750	
	N	445	1112	3336	
MAX. SPEED	in	30	30	40	
	per sec	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

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	
MAX. STROKE	in	200		200		200		200		160		100	
	mm	5080		5080		5080		5080		4064		2540	
MAX. FORCE	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
*MAX. LOAD	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
MAX. SPEED	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
MAX. STROKE	in	207	204	156	
	mm	5258	5182	3962	
MAX. FORCE	lbf	150	250	325	
	N	667	1112	1446	
*MAX. LOAD	lb	591	1454	2008	
	N	2629	6468	8932	
MAX. SPEED	in/sec	157	200	200	
	mm/sec	3988	5080	5080	

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

DRIVES & MOTORS

ACSI INTEGRATED MOTOR/DRIVE/CONTROLLER



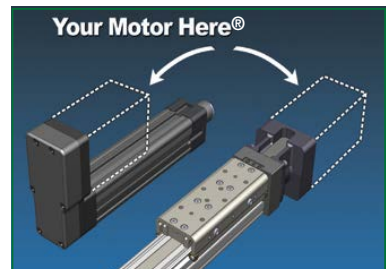
STANDARD FEATURES:

- 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 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

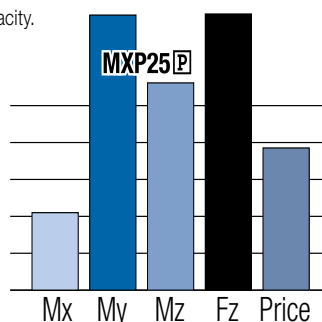
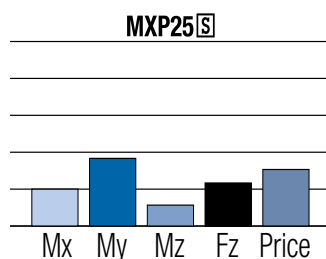
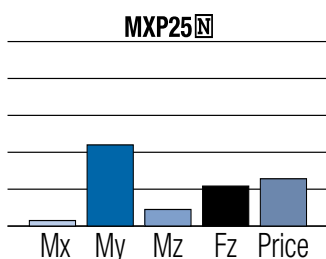
COMMON OPTIONS:

- 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							
BORE SIZE	in	0.63		1.00		1.25		1.50		2.00		2.50							
	mm	16		25		32		38		50		64							
MAX. STROKE	in	206		206		205		203		203		103							
	mm	5232		5232		5207		5156		5156		2616							
MAX. FORCE	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
*MAX. LOAD	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

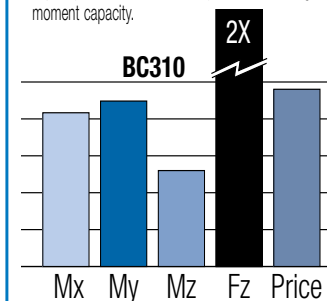
*Auxiliary carrier doubles the load capacity and also increases My and Mz bending moment capacity.



SPECIFICATIONS:

		10	15	20
BORE	in	1.00	1.50	2.00
SIZE	mm	25	32	50
MAX. STROKE	in	205	202	142
	mm	5207	5130	3606
MAX. FORCE	lbf	78	176	310
	N	347	783	1379
*MAX. LOAD	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

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:

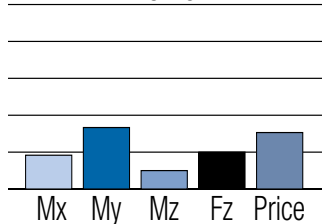
- Auxiliary carrier
- Four ported head
- Floating mount
- Foot mount
- Tube support
- Adjustable shock absorbers
- Reed or solid state position sensors
- Metric or US Standard mounting

SPECIFICATIONS:

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

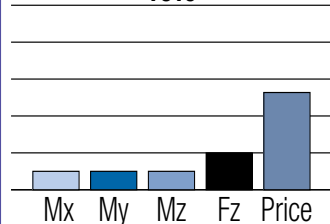
OPTIONS:

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

TC10



CABLE CYLINDERS

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

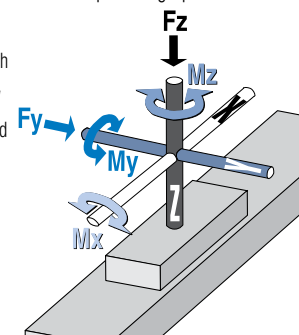
SPECIFICATIONS:

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

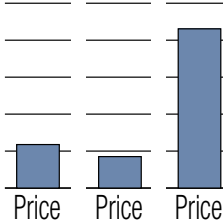
BENDING MOMENTS DIAGRAM

Reference for all comparison graphs

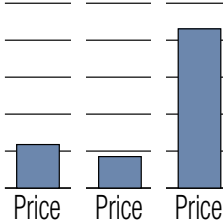
- Mx = Roll
- My = Pitch
- Mz = Yaw
- Fz = Load



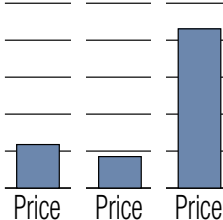
CC10



SA10



DP15



100 PSI. See www.tolomatic.com 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

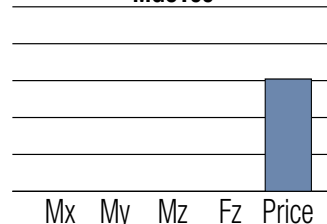
OPTIONS:

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

SPECIFICATIONS:

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

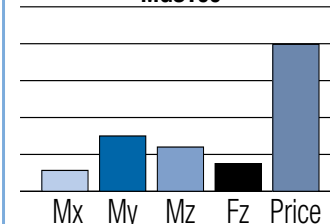
OPTIONS:

- 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
BORE	in	0.38	0.63	1.00
	mm	10	16	25
MAX. STROKE	in	30	60	80
	mm	762	1524	2032
MAX. FORCE	lbf	11	30	78
	N	49	133	347
MAX. LOAD	lb	14	40	90
	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:

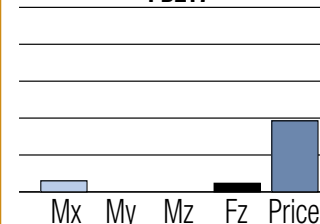
- Choose composite or linear ball bearings
- Reed or solid state position sensors

SPECIFICATIONS:

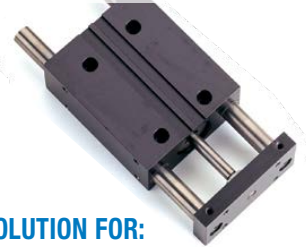
		10	17	20	32
BORE	in	0.63	1.06	1.25	2.00
	mm	16	27	32	51
MAX. STROKE	in	4	6	6	6
	mm	102	152	152	152
**MAX. FORCE	lbf	46	132	184	471
	N	205	587	818	2095
MAX. LOAD	lb	16	38	48	70
	N	71	169	214	311

** 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
BORE	in	1.06	1.25
	mm	27	32
MAX. STROKE	in	3	3
	mm	76	76
MAX. FORCE	lbf	88	123
	N	391	547
MAX. LOAD	lb	20	25
	N	76	89

BENDING MOMENTS DIAGRAM

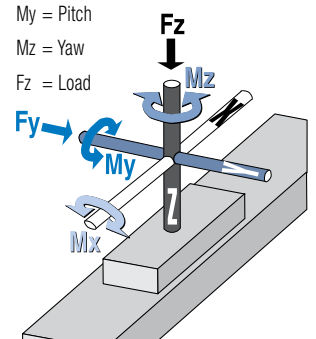
Reference for all comparison graphs

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 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°
- Prelubricated and ready for installation
- Bore sizes: Compact; .5" & .625"
12 & 15mm
Standard; .75", 1" & 1.25"
20, 25 & 30mm

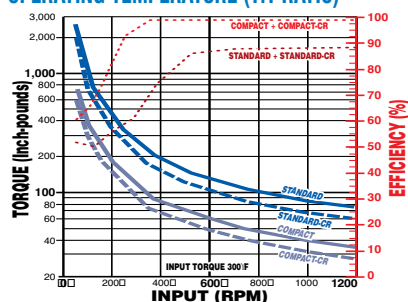
OPTIONS:

- 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

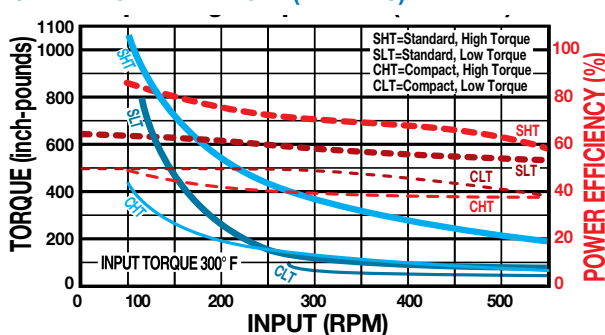
OPTIONS:

- 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	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*

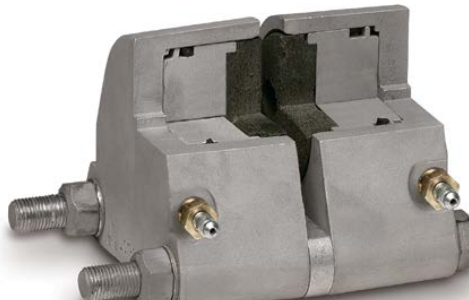
DYNAMIC TORQUE (MAX. in.-lbs.)

DISC DIA. (in.)	P10	P20	P220
6.313	174	328	685
8	233	450	907
10	303	594	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	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	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	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	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

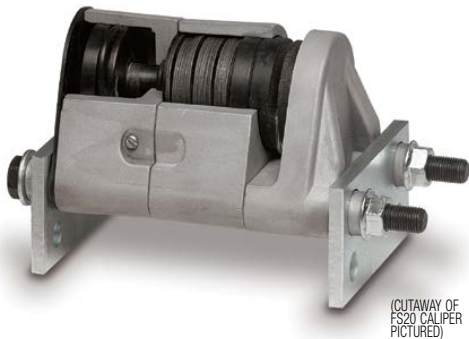
*NUMBERS ARE FOR GENERAL COMPARISONS ONLY. Not all models deliver maximum

TRANSMISSION

(CONTINUED)

BRAKES

SPRING APPLIED/HYDRAULIC RELEASE



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

DISCS



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

	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



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:

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
63.12	63	12	737.0

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

*Max Force is guidance for achieving maximum life.

Consult Tolomatic for higher force

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
63.12	63	0.472	29.02

Lead Accuracy: 0.0004 in/ft Backlash: 0.0012 in

Option: Pre-loaded roller screws. Contact Tolomatic.

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

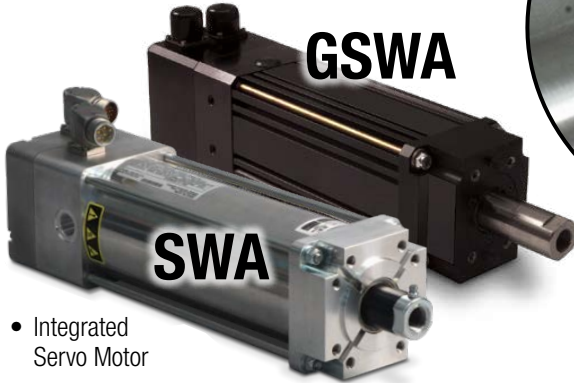


RSA

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



Planetary Roller Screws
by Tolomatic



GSA

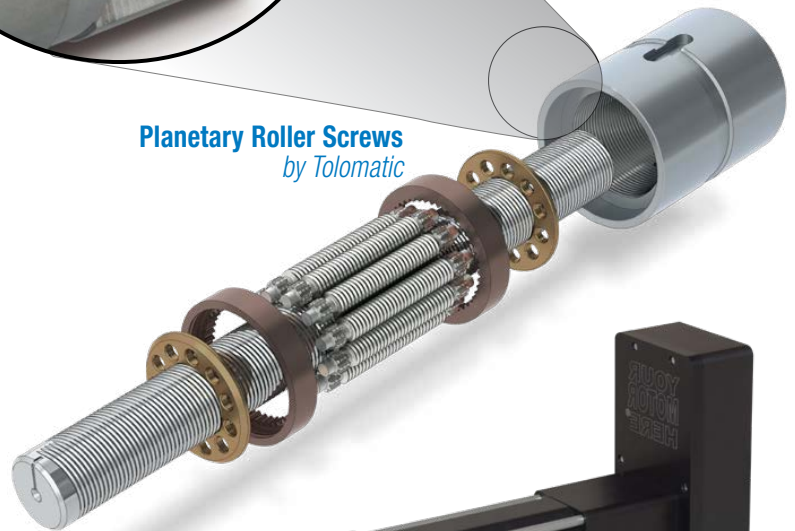
SWA

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



ERD

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



RSX

- Extreme Force
- Hydraulic Replacement

TolomaticTM
EXCELLENCE IN MOTION

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

USA

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Hamel, MN 55340, USA
Phone: (763) 478-8000
Fax: (763) 478-8080
Toll-Free: **1-800-328-2174**
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