Tolomatic
EXCELLENCE *IN MOTION*®

ELECTRIC ACTUATORS

engineered for long life with

ENDURANCE TECHNOLOGY℠

LINEAR SOLUTIONS MADE EASY

SELECT THE ACTUATOR

RODLESS STYLE SCREW ACTUATORS

MXE-S

Solid bearing design to accommodate moderate load carrying and guidance applications

PAGE 6

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
1,040 lb	4,300 lbf	60 in/sec	178 in
4,626 N	*19,127 N*	*1,524 mm/sec*	*4,521 mm*

MXE-P

Recirculating ball linear bearings support moderate to heavy load and moment applications

PAGE 8

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
2,583 lb	4,300 lbf	60 in/sec	178 in
11,490 N	*19,127 N*	*1,524 mm/sec*	*4,521 mm*

B3S

(M3S, B3SD, M3SD)

Internal recirculating ball bearing design to fully support moderate to heavy loads and moments

PAGE 10

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
8,032 lb	2,700 lbf	60 in/sec	179 in
35,728 N	*12,010 N*	*1,524 mm/sec*	*4,547 mm*

TKS

Table style actuator with the highest accuracy, flatness and straightness specifications

PAGE 12

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
1,500 lb	3,260 lbf	60 in/sec	96 in
6,672 N	*14,501 N*	*1,524 mm/sec*	*2,438 mm*

RODLESS STYLE BELT ACTUATORS

MXB-U

Pre-assembled compact linear belt solution for use in applications with existing guides & supports

PAGE 14

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
—	418 lbf	200 in/sec	230 in
—	*1,859 N*	*5,080 mm/sec*	*5,842 mm*

MXB-P

Recirculating ball linear bearings support moderate to heavy load and moment applications

PAGE 16

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
2,583 lb	418 lbf	150 in/sec	230 in
11,490 N	*1,859 N*	*3,810 mm/sec*	*5,842 mm*

B3W

(M3W, B3WD, M3WD)

Internal belt with the same bearing design as B3S, supporting high speed and long stroke applications

PAGE 18

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
8,032 lb	325 lbf	200 in/sec	292 in
35,728 N	*1,446 N*	*5,080 mm/sec*	*7,417 mm*

TKB

Table style actuator with the highest accuracy, flatness and straightness specifications

PAGE 20

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
1,500 lb	245 lbf	100 in/sec	96 in
6,672 N	*1,090 N*	*2,540 mm/sec*	*2,438 mm*

NOTE: Actuators may not deliver ALL the maximum ratings in one application; (e.g., maximum speed is generally not recommended with maximum load)

STYLE YOU NEED...

ROD STYLE SCREW ACTUATORS

ERD

PAGE 22

Economical rod-style electric actuator with solid nut/screw in a compact package

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
—	4,500 lbf	40 in/sec	24 in
—	*20,017 N*	*1,016 mm/sec*	*610 mm*

ICR

PAGE 24

Integral motor controller design with ball screw for medium force applications in a compact package

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
—	720 lbf	25 in/sec	24 in
—	*3,203 N*	*635 mm/sec*	*609 mm*

RSA (RSM)

PAGE 26

Traditional pneumatic or hydraulic cylinder style operation for externally supported and guided loads

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
—	7,350 lbf	123 in/sec	60 in
—	*32,695 N*	*3,124 mm/sec*	*1,524 mm*

GSA (GSM)

PAGE 28

Self-contained guided cylinder style operation for loads requiring guidance and support

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
1,200 lb	2,700 lbf	123 in/sec	36 in
5,338 N	*12,010 N*	*3,124 mm/sec*	*914 mm*

IMA

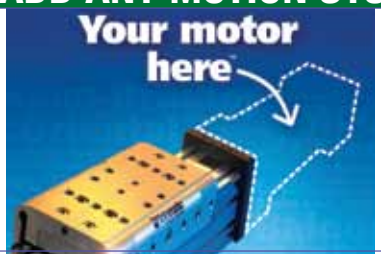
PAGE 30

Integral motor design with roller or ball screw for high force applications in a compact package

MAX. LOAD	MAX. THRUST	MAX. SPEED	MAX. STROKE
—	6,875 lbf	52.5 in/sec	18 in
—	*30,594 N*	*1,334 mm/sec*	*457 mm*

...COMPLETE YOUR SOLUTION

ADD ANY MOTION SYSTEM TO OUR ACTUATOR



CUSTOM MOTOR MOUNTS. 15 DAYS

• Select a high-performance Tolomatic electric actuator and we'll provide a motor-specific interface for your motor. With our online database, you can select from over 60 motor manufacturers and hundreds of models.

*Visit **www.tolomatic.com/ymh** today to find your motor/actuator match!*

OR

SELECT A COMPLETE SYSTEM FROM TOLOMATIC

- **MOTORS**
- **DRIVES**
- **CONTROLLERS**
- **GEARBOXES**

Tolomatic offers digital servo or stepper drives with motors matched to provide optimal performance with Tolomatic actuators.

NOTE: Actuators may not deliver ALL the maximum ratings in one application; (e.g., maximum speed is generally not recommended with maximum load)

Tolomatic
EXCELLENCE *IN MOTION*®

MADE IN U.S.A.

DEDICATED TO LINEAR MOTION SOLUTIONS

FAST DELIVERY
BUILT-TO-ORDER

Since 1985, with the introduction of our pneumatic rodless band cylinder, Tolomatic has been a market leader for linear motion solutions. In 1992, we introduced screw and belt driven rodless actuators for users demanding solutions controlled by electric motors. Today, Tolomatic's electric product family has grown to include a broad range of rod and rodless style actuators and actuators with integral motors and built-in position sensors. All standard products are built to order and shipped directly to you in 15 days or less! From single actuators to complete systems, turn to Tolomatic for your linear motion solutions.

COMMITTED TO THE HIGHEST QUALITY

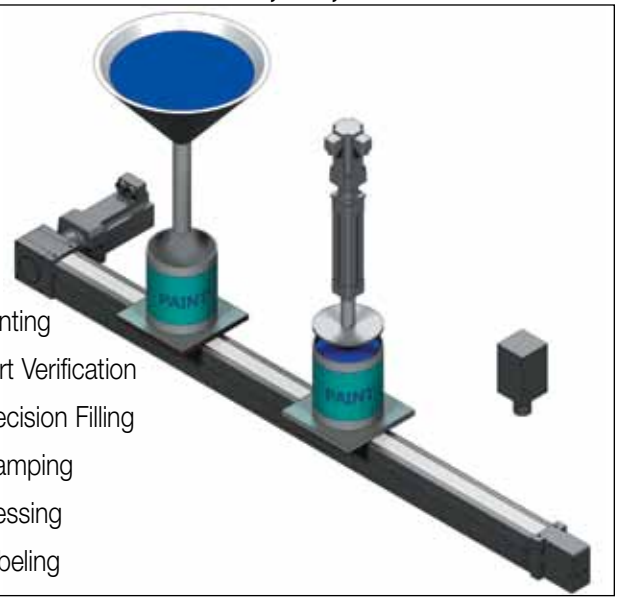
CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2008
DNV

Our commitment to quality is legendary. From stringent process controls in our manufacturing facility to the best customer support, we stand behind our products.

ENDURANCE TECHNOLOGY℠

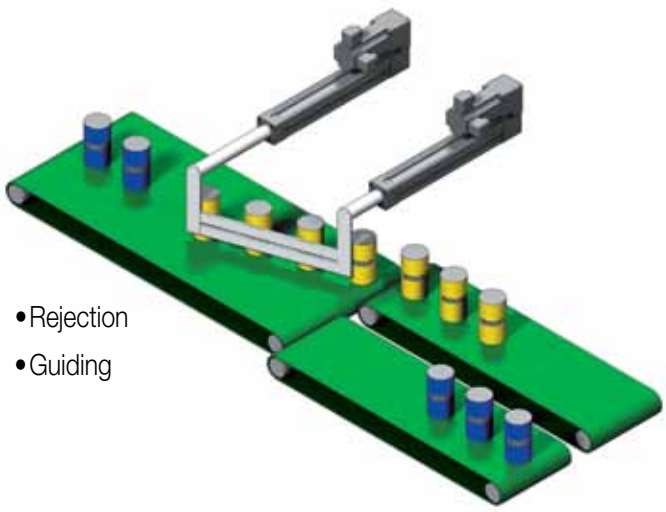
Years of application experience focused on linear actuators means every component and material is designed to produce the best value and best performing actuators in the market today.
We call this philosophy Endurance Technology.

APPLICATION: Position, Fill, Assemble



- Printing
- Part Verification
- Precision Filling
- Stamping
- Pressing
- Labeling

APPLICATION: Gating, Sorting



- Rejection
- Guiding

UNDERSTANDING THE DIFFERENCES

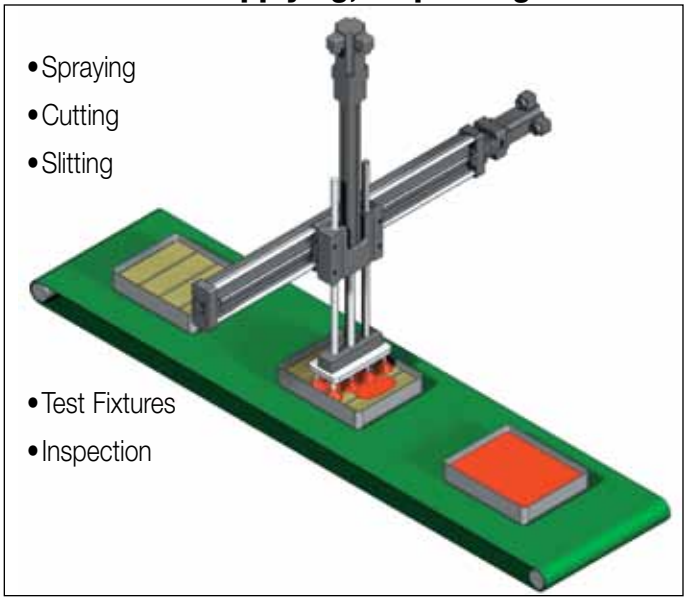
	ROD ACTUATORS	RODLESS ACTUATORS
OPERATING ENVELOPE	The load (or end effector) is able to fully retract out of the work zone, allowing clearance for other operations.	The load and carrier traverse the body of the actuator itself, providing up to 50% space savings when compared to an equivalently sized rod actuator.
STROKE LENGTH	Stroke length limitations exist due to the mass and support requirements when the actuator thrust tube is extended. A max. stroke length of 5 feet is normal.	Applications requiring longer stroke lengths can easily be accommodated; lengths of 24 feet are available as standard product.
LOAD SUPPORT	External load support and guidance is typically required.	The actuator body supports the load and associated moments; actuator bearing designs accommodate load requirements.
SPEED AND THRUST	Installations with a ball or roller screw can provide high forces via the thrust tube.	Belt drive rodless actuators are capable of high speeds, up to 200 in/sec. (5m/sec.)
MASS AND INERTIA	Higher weight and moment of inertia are typical due to the mass of the thrust tube.	Lower total mass and lower reflected inertia are typical when compared to rod style actuators.

ADVANTAGES OF ELECTRIC ACTUATORS

- Provides precise control of acceleration, speed, position and/or torque
- Accurately positions the load at variable and repeatable locations within the full stroke
- Synchronizes multiple axes for coordinated moves
- Programs or configurations can quickly be changed for multiple applications
- Ability to synchronize with other machine operations
- Quiet, clean and energy efficient operation

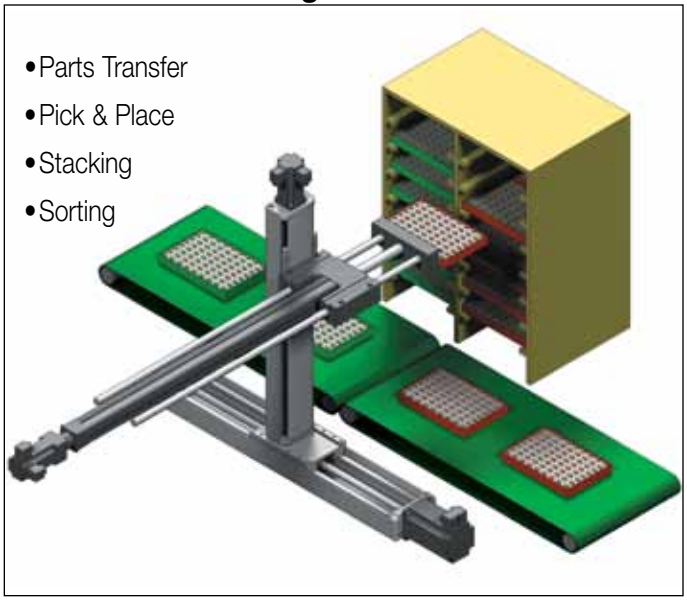
APPLICATION: Applying, Dispensing

- Spraying
- Cutting
- Slitting
- Test Fixtures
- Inspection



APPLICATION: Storage & Retrieval

- Parts Transfer
- Pick & Place
- Stacking
- Sorting



MXE-S SOLID BEARING SCREW ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The MXE-S rodless electric screw-drive actuator is designed for applications requiring moderate load carrying and guidance. The MXE-S actuator utilizes two field replaceable solid bearings that optimize stress distribution for optimal performance. Built-to-order in stroke lengths up to 178 inches.

LIGHTWEIGHT ALUMINUM DESIGN

- Clear anodized extrusion design is optimized for rigidity and strength

STAINLESS STEEL BAND

- Exterior dust band made of fatigue resistant, durable, flexible and corrosion resistant stainless steel

RETAINED DUST BAND

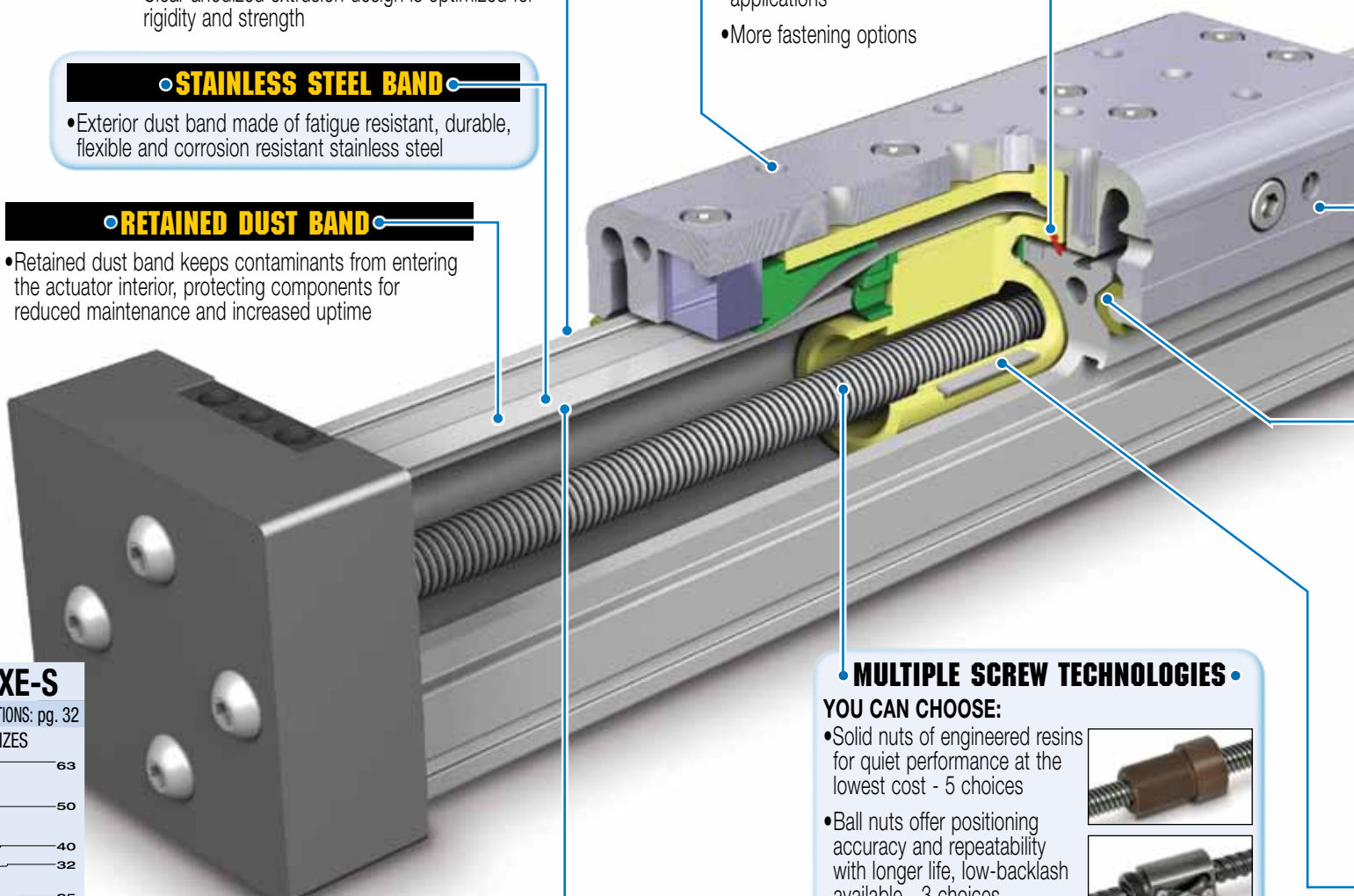
- Retained dust band keeps contaminants from entering the actuator interior, protecting components for reduced maintenance and increased uptime

LARGE FLEXIBLE MOUNTING PATTERN

- Carrier gives more load stability
- Compatibility with existing BCS applications
- More fastening options

DUST WIPER

- Formed end cap and side dust wipers keep contaminants from entering the actuator's internal area



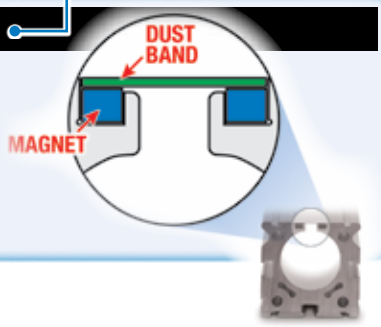
MULTIPLE SCREW TECHNOLOGIES

YOU CAN CHOOSE:

- Solid nuts of engineered resins for quiet performance at the lowest cost - 5 choices
- Ball nuts offer positioning accuracy and repeatability with longer life, low-backlash available - 3 choices

NON-WEAR BAND RETENTION

- Magnetically retained band is not subject to wear as are mechanically retained systems



MXE-S

SPECIFICATIONS: pg. 32

SIZES

MAXIMUM
STROKE: 178"
THRUST: 4,300 lbf
SPEED: 60 in/sec
LOAD: 1,040 lb

COMPLETE INFORMATION:
www.tolomatic.com

15 DAYS BUILT-TO-ORDER

• INCH OR METRIC MOUNTING •

- Your choice of inch *(US standard)* or metric mounting to the carrier

• YOUR MOTOR HERE •

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware - MXE is a "Your Motor Here" actuator for easy in-line motor installation. Check our website (www.tolomatic.com/ymh) for complete YMH information
- Specify and ship your device to Tolomatic for factory installation

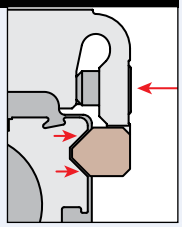
• MOTOR ORIENTATION •

YOU CAN CHOOSE:

- In-line option directly couples the driving shaft and is a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a 1:1 or 2:1 belt ratio

• NON-BINDING BEARING ARMS •

- Bearings are tensioned indirectly, providing bind free adjustment



• TRAPEZOIDAL BEARINGS •

- Trapezoidal design maximizes bearing surface area for less pressure on bearing surfaces; less pressure results in less wear
- Engineered bearing material has low static and dynamic friction with low wear properties for long lasting, smooth operation
- Bearings are field replaceable for extended service life

• INTERNAL MAGNETS •

- Standard feature that allows sensor installation on the open side or bottom of the extrusion

NOTE: Boxed letters indicate ordering codes

OPTIONS

AUXILIARY CARRIER [D][C]

- 2X higher Fz (load) capacity
- High bending moment capacity

FLOATING MOUNT [F][L]

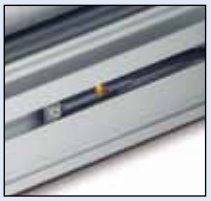
- Compensates for non-parallelism between MX actuator and externally guided load

TUBE CLAMPS [T][C]

- Used for intermediate support
- Flush with bottom of actuator to retain low profile
- Drop-in, adjustable mounting locations (MXE16 uses T-nuts with mounting plates)

MOUNTING PLATES [M][P]

- To provide clearance for motor and mount
- Use in conjunction with tube clamps



SWITCHES

- Wide variety of sensing choices: Reed, Solid State PNP or NPN, all available normally open or normally closed
- Flush mount, drop-in installation
- Bright LEDs, power & signal indication
- CE rated, RoHS compliant

MXE-P PROFILED RAIL SCREW ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The MXE-P rodless electric screw-drive actuator is designed for applications requiring moderate to heavy load carrying and guidance. The MXE-P actuator features a profiled rail system with recirculating ball linear guides for optimal performance. Built-to-order in stroke lengths up to 178 inches.

DUST WIPER

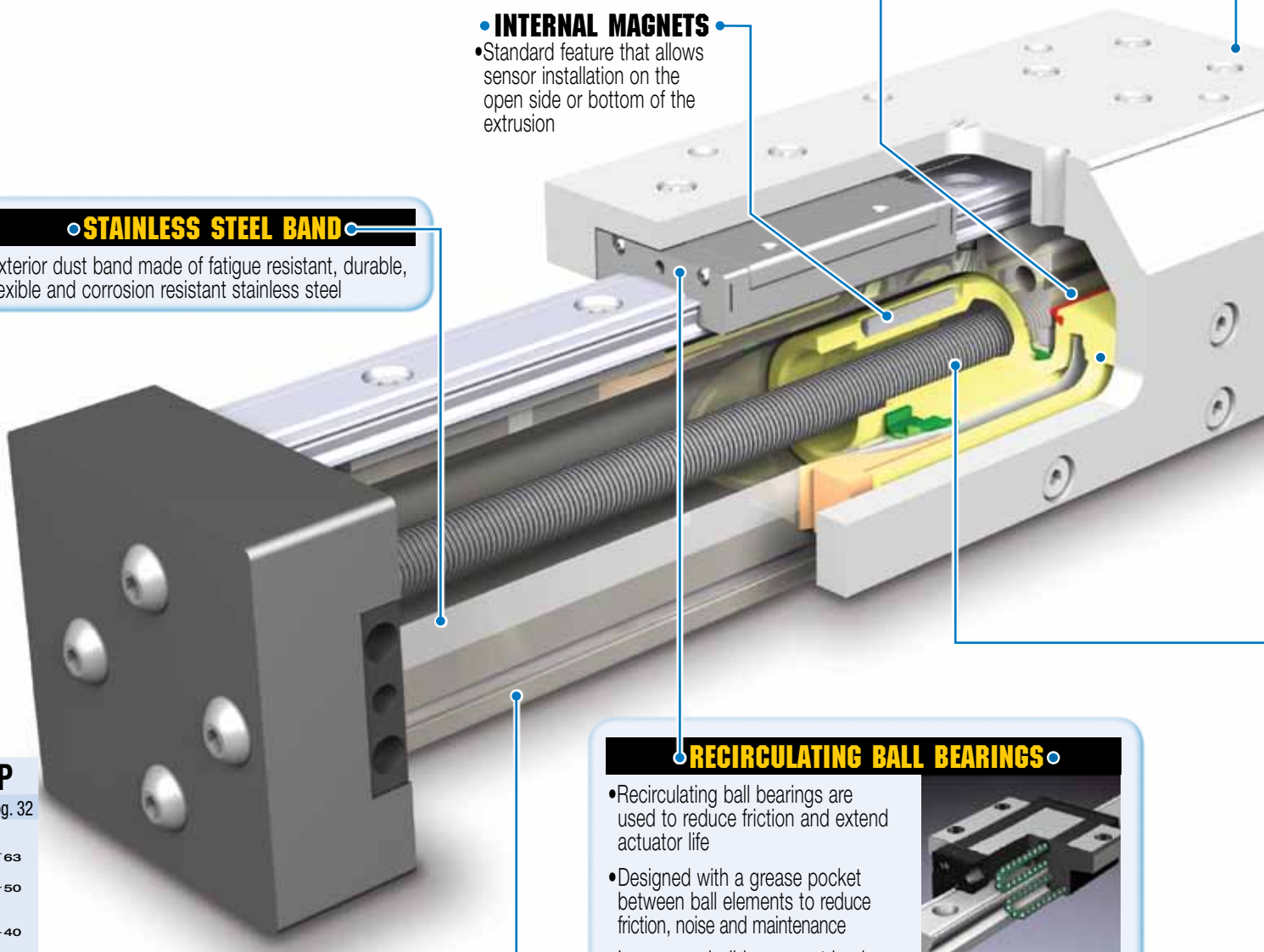
- Formed end cap and side dust wipers keep contaminants from entering the actuator's internal area

INTERNAL MAGNETS

- Standard feature that allows sensor installation on the open side or bottom of the extrusion

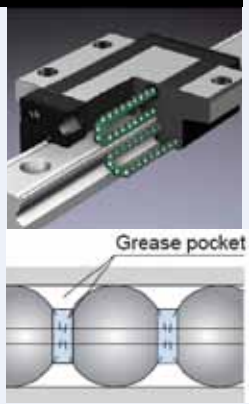
STAINLESS STEEL BAND

- Exterior dust band made of fatigue resistant, durable, flexible and corrosion resistant stainless steel



RECIRCULATING BALL BEARINGS

- Recirculating ball bearings are used to reduce friction and extend actuator life
- Designed with a grease pocket between ball elements to reduce friction, noise and maintenance
- Large permissible moment loads
- High speed operation, low heat generation
- High precision, smooth, low friction motion



LIGHTWEIGHT ALUMINUM DESIGN

- Clear anodized extrusion design is optimized for rigidity and strength

INCH OR METRIC MOUNTING

- Your choice of inch *(US standard)* or metric mounting to the carrier

MXE-P

SPECIFICATIONS: pg. 32

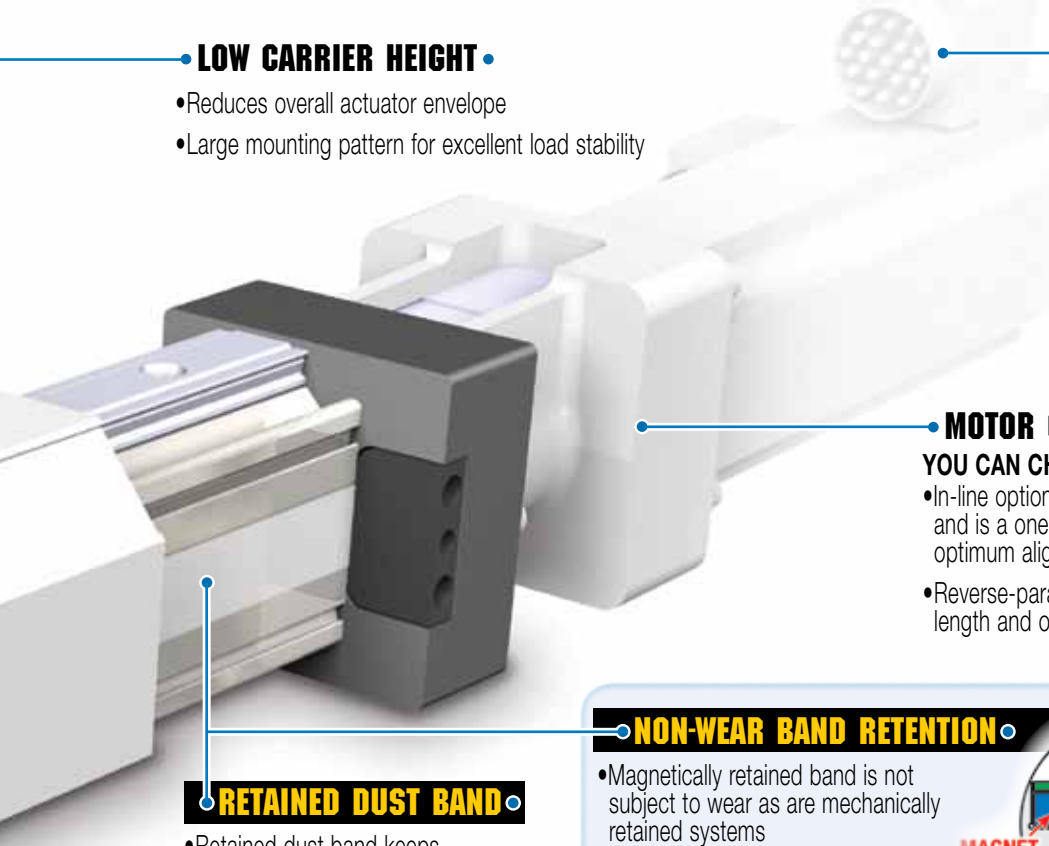
SIZES

MAXIMUM
STROKE: 178"
THRUST: 4,300 lbf
SPEED: 60 in/sec
LOAD: 2,583 lb

COMPLETE INFORMATION:
www.tolomatic.com

LOW CARRIER HEIGHT

- Reduces overall actuator envelope
- Large mounting pattern for excellent load stability



YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware - MXE is a "Your Motor Here" actuator for easy in-line motor installation. Check our website (www.tolomatic.com/ymh) for complete information
- Specify and ship your device to Tolomatic for factory installation

MOTOR ORIENTATION

YOU CAN CHOOSE:

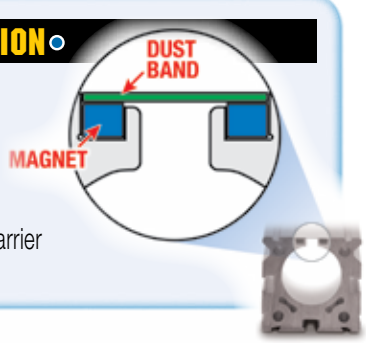
- In-line option directly couples the driving shaft and is a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a 1:1 or 2:1 belt ratio

RETAINED DUST BAND

- Retained dust band keeps contaminants from entering the actuator interior, protecting components for reduced maintenance and increased uptime

NON-WEAR BAND RETENTION

- Magnetically retained band is not subject to wear as are mechanically retained systems
- Immediate band engagement and release results in less drag on carrier for lower friction force during initial carrier movement



MULTIPLE SCREW TECHNOLOGIES

YOU CAN CHOOSE:

- Solid nuts of engineered resins offer quiet performance at the lowest cost - 5 choices
- Ball nuts offer positioning accuracy and repeatability with longer life, low-backlash available - 3 choices

NOTE: Boxed letters indicate ordering codes

OPTIONS

AUXILIARY CARRIER [D][C]

- 2X higher Fz (load) capacity
- High bending moment capacity

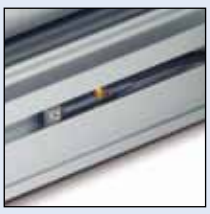
TUBE CLAMPS [T][C]

- Used for intermediate support
- Flush with bottom of actuator to retain low profile
- Drop-in, adjustable mounting locations

(MXE16 uses T-nuts with Mounting Plates)

MOUNTING PLATES [M][P]

- To provide clearance for motor and mount
- Use in conjunction with tube clamps



SWITCHES

- Wide variety of sensing choices: Reed, Solid State PNP or NPN, all available normally open or normally closed
- Flush mount, drop-in installation
- Bright LEDs, power & signal indication
- CE rated, RoHS compliant

B3S RODLESS SCREW DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

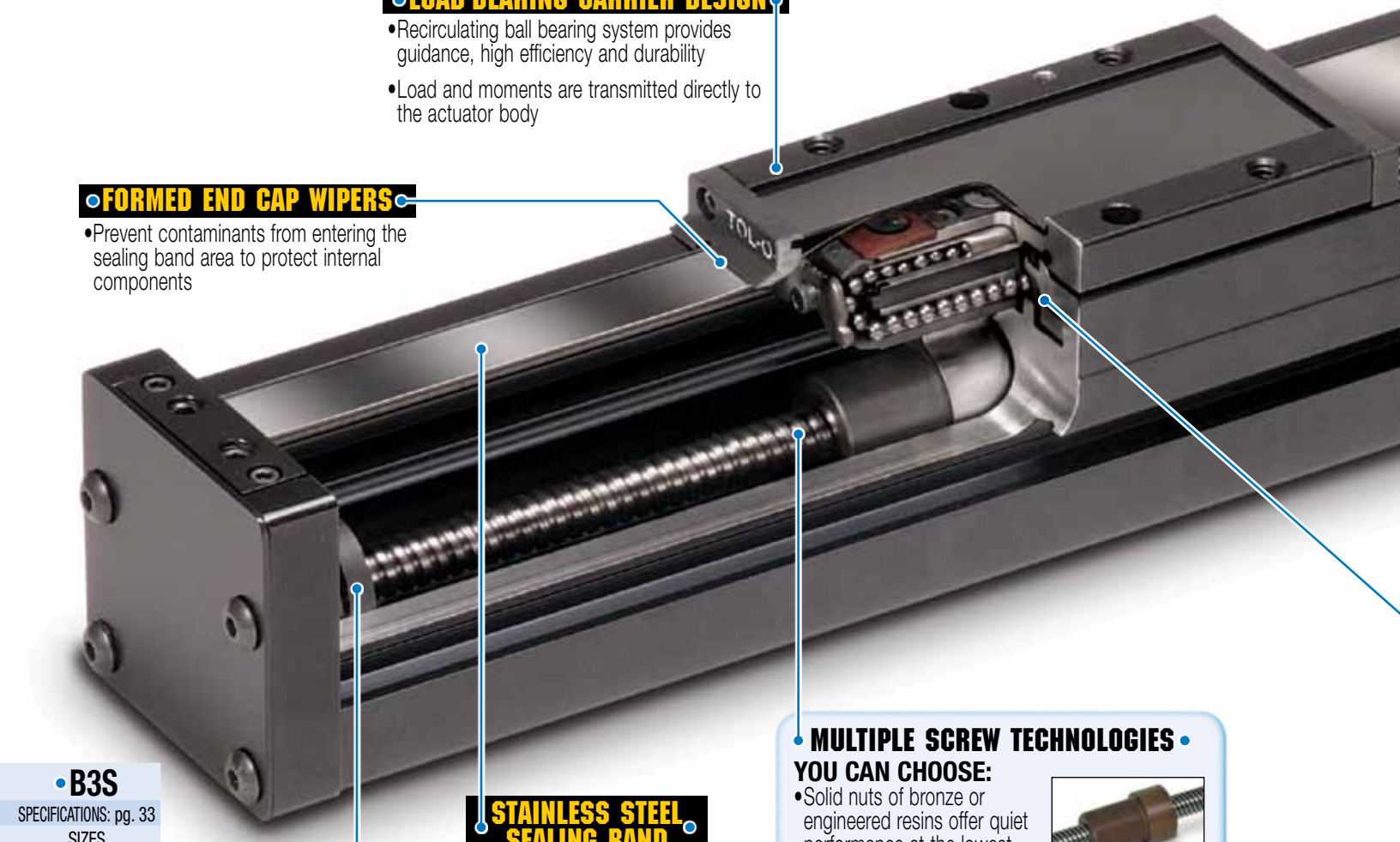
The B3S rodless style actuator is designed for carrying moderate to heavy loads and accommodating the associated bending and dynamic moments. The B3S features a patented integral recirculating ball bearing guidance system that is protected by a stainless steel sealing band. Built-to-order in stroke lengths up to 179 inches with your choice of screw technology.

LOAD-BEARING CARRIER DESIGN

- Recirculating ball bearing system provides guidance, high efficiency and durability
- Load and moments are transmitted directly to the actuator body

FORMED END CAP WIPERS

- Prevent contaminants from entering the sealing band area to protect internal components



INTERNAL BUMPERS

- Bumpers protect the screw and nut assembly from damage at end of stroke

STAINLESS STEEL SEALING BAND

- Prevents contaminants from entering the screw and nut area for extended performance
- Fatigue resistant stainless steel bands are specifically made to offer long life and will not elongate
- Provides IP44 protection for bearings and screw nut

MULTIPLE SCREW TECHNOLOGIES YOU CAN CHOOSE:

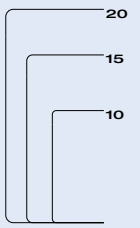
- Solid nuts of bronze or engineered resins offer quiet performance at the lowest cost; anti-backlash available

- Ball nuts offer positioning accuracy and repeatability with longer life; low-backlash available

B3S

SPECIFICATIONS: pg. 33

SIZES

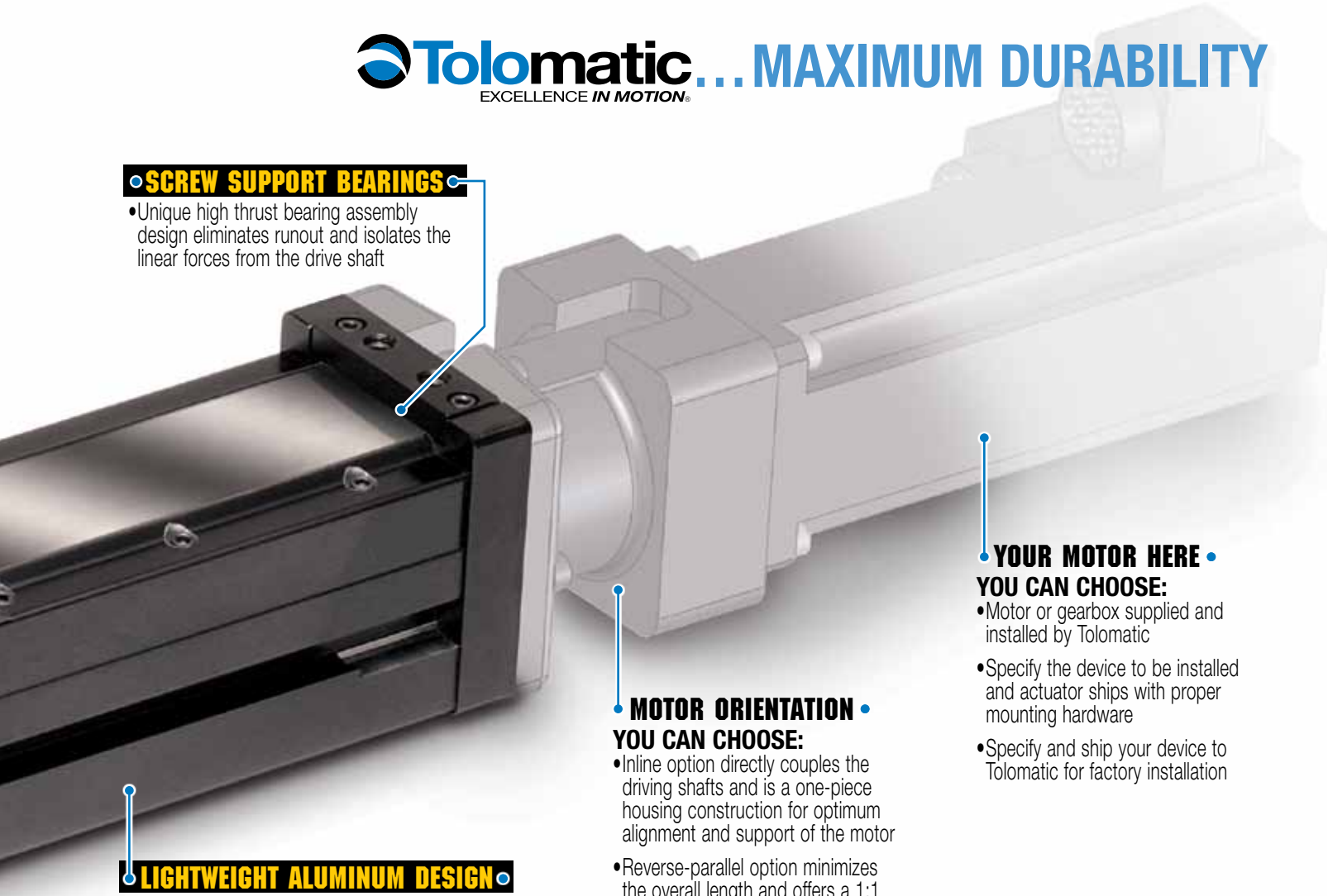


MAXIMUM
STROKE: 179"
THRUST: 2,700 lbf
SPEED: 60 in/sec
LOAD: 8,032 lb

COMPLETE INFORMATION:
www.tolomatic.com

15 DAYS BUILT-TO-ORDER

...MAXIMUM DURABILITY



SCREW SUPPORT BEARINGS

- Unique high thrust bearing assembly design eliminates runout and isolates the linear forces from the drive shaft

MOTOR ORIENTATION

YOU CAN CHOOSE:

- Inline option directly couples the driving shafts and is a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a 1:1 or 2:1 belt ratio

YOUR MOTOR HERE

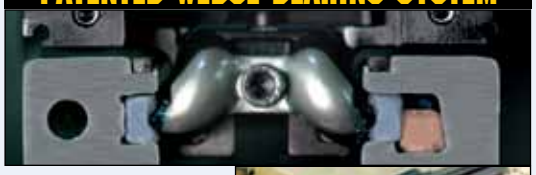
YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation

LIGHTWEIGHT ALUMINUM DESIGN

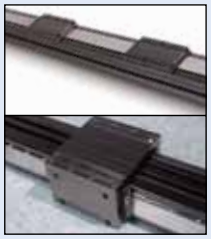
- Black anodized extrusion design is optimized for rigidity and strength
- External switch channels on both sides allow easy placement and adjustment of position indicating switches

PATENTED WEDGE BEARING SYSTEM



- Unique design incorporates hardened steel race-ways integral to the aluminum extrusion
- Bearing surfaces are adjusted at the factory for optimum preload and smooth performance

OPTIONS



CARRIER OPTIONS

- **AUXILIARY CARRIER** doubles the load capacity and increases pitch and yaw bending moment capacities
- **DUAL 180° CARRIER** doubles the load capacity, increases roll and yaw bending moment capacities and offers a wide mounting platform

MOUNTING OPTIONS

- **SURFACE MOUNT** two t-slots are integral on the entire underside of the actuator body for direct mounting
- **TUBE SUPPORTS** provide intermediate support of the actuator body throughout long stroke lengths

METRIC OPTION

Provides metric tapped holes for mounting of load to carrier and of actuator to mating surfaces

SWITCHES

Styles include: reed, hall-effect or triac. Select either 15ft potted cable with flying leads or 6in to quick-disconnect coupler with mating 15ft cable

TKS PRECISION SCREW DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The TKS linear table style actuator is designed for applications carrying moderate load and requiring high precision in parameters such as flatness, straightness and accuracy. The TKS actuator utilizes two parallel profiled rails with four recirculating ball linear guides to provide consistent and precise performance. Built-to-order in stroke lengths up to 96 inches with your choice of screw technology.

MULTIPLE SCREW TECHNOLOGIES YOU CAN CHOOSE:

- Solid nuts of bronze or engineered resins offer quiet performance at the lowest cost; anti-backlash available

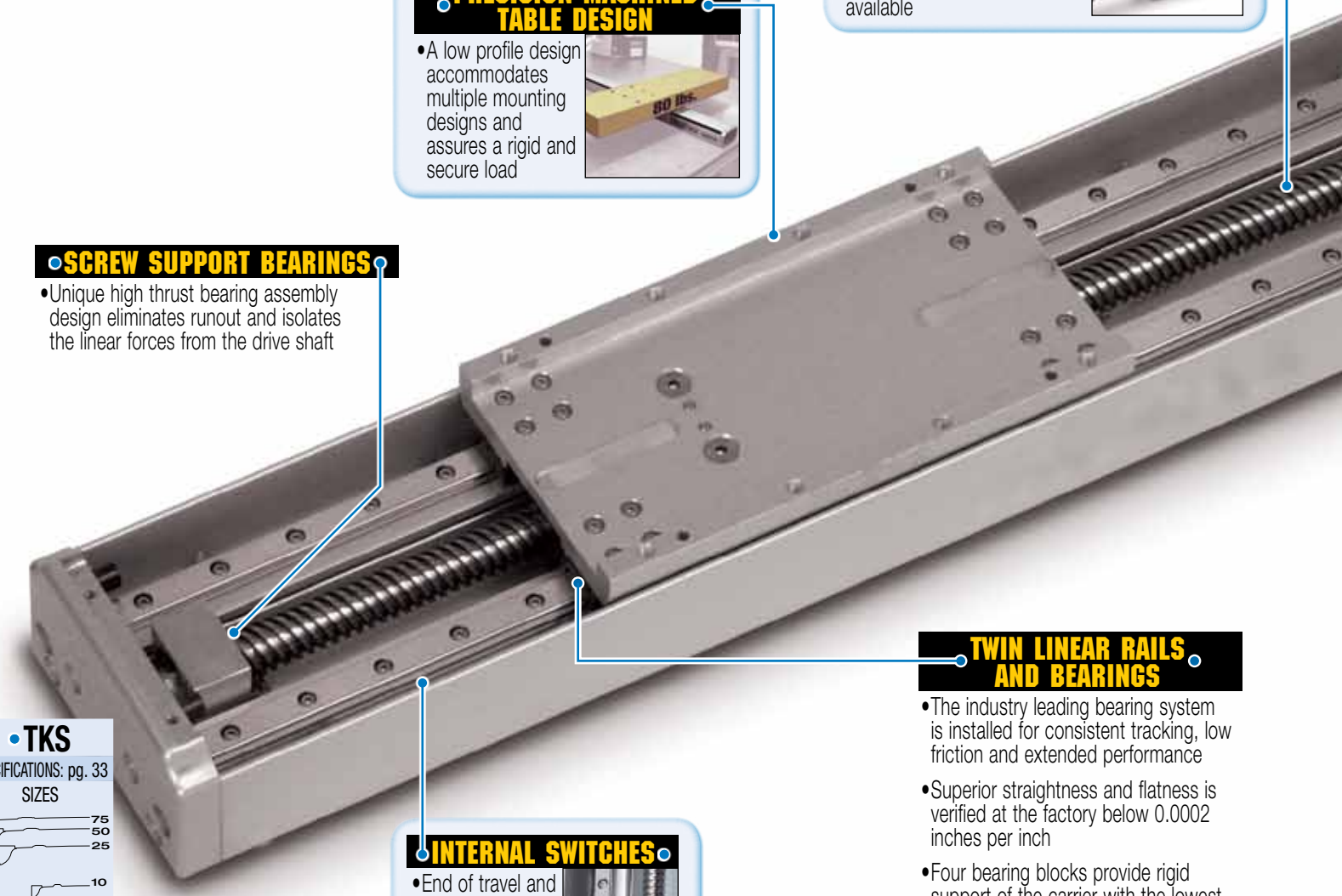
- Ball nuts offer positioning accuracy and repeatability with longer life; low-backlash available

PRECISION MACHINED TABLE DESIGN

- A low profile design accommodates multiple mounting designs and assures a rigid and secure load

SCREW SUPPORT BEARINGS

- Unique high thrust bearing assembly design eliminates runout and isolates the linear forces from the drive shaft



TWIN LINEAR RAILS AND BEARINGS

- The industry leading bearing system is installed for consistent tracking, low friction and extended performance
- Superior straightness and flatness is verified at the factory below 0.0002 inches per inch
- Four bearing blocks provide rigid support of the carrier with the lowest possible deflection

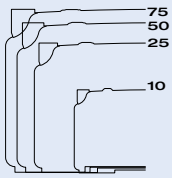
INTERNAL SWITCHES

- End of travel and home positioning sensors are integral into the body of the actuator for clean and easy management

TKS

SPECIFICATIONS: pg. 33

SIZES

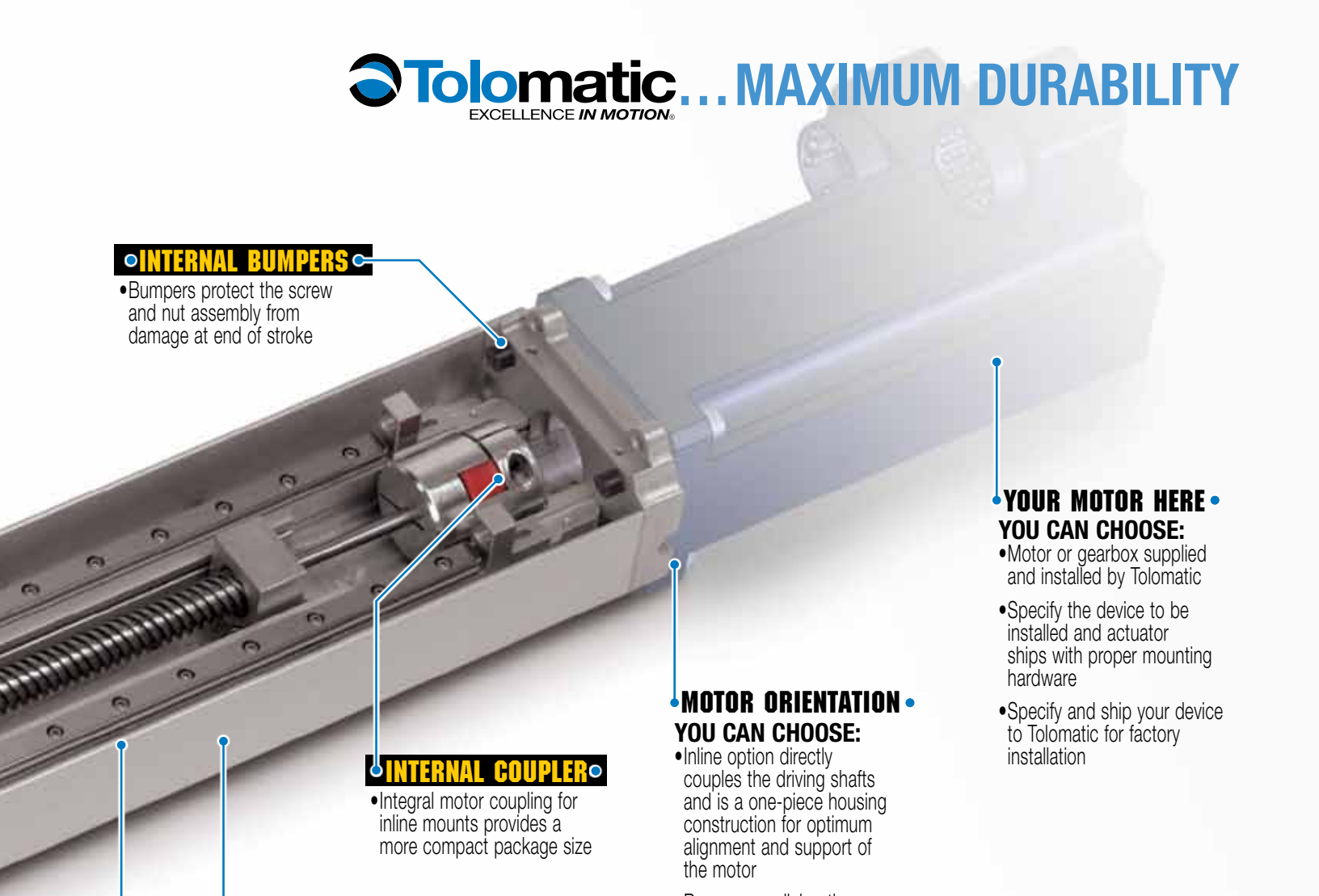


MAXIMUM
STROKE: 96"
THRUST: 3,260 lbf
SPEED: 160 in/sec
LOAD: 1,500 lb

COMPLETE INFORMATION:
www.tolomatic.com

15 DAYS BUILT-TO-ORDER

...MAXIMUM DURABILITY



INTERNAL BUMPERS

- Bumpers protect the screw and nut assembly from damage at end of stroke

INTERNAL COUPLER

- Integral motor coupling for inline mounts provides a more compact package size

MOTOR ORIENTATION

YOU CAN CHOOSE:

- Inline option directly couples the driving shafts and is a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a 1:1 or 2:1 belt ratio

YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation

LIGHTWEIGHT ALUMINUM DESIGN

- Clear anodized extrusion design is optimized for rigidity and strength
- Mounting holes placed evenly throughout the stroke maintain rigidity

REMOVABLE COVER

- Provides rapid access to internal components and protects mechanisms from incidental damage

OPTIONS

CARRIER OPTIONS

- **AUXILIARY CARRIER** Doubles the load capacity and increases pitch and yaw bending moment capacities

SEALING OPTIONS

- **BELLOWS** provides additional protection of mechanical components in dirty environments

SWITCHES

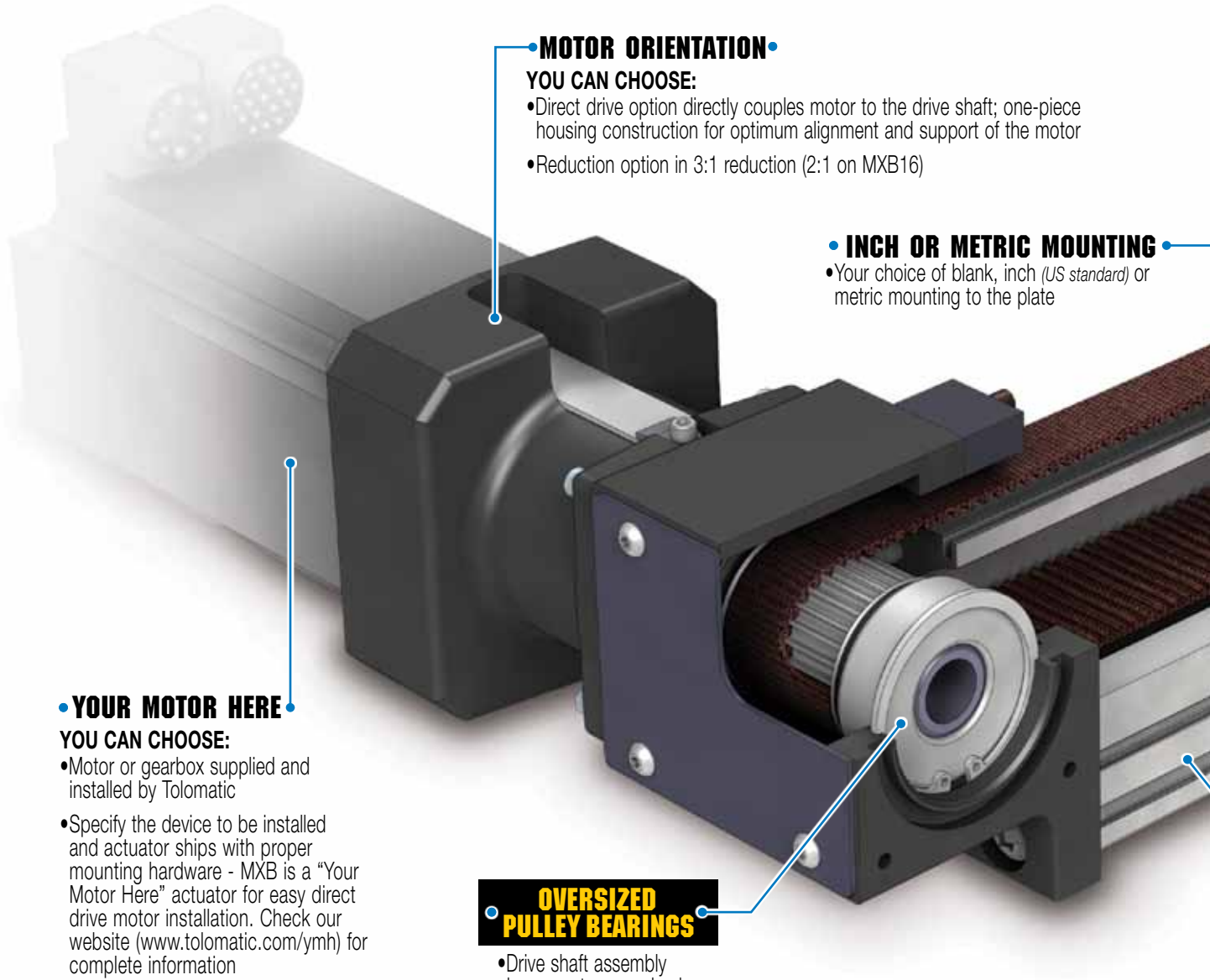
Styles include: reed or hall-effect.
15ft potted cable with flying leads

MXB-U UNGUIDED BELT DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology℠ features are designed for maximum durability to provide extended service life.

The MXB-U rodless style actuator is a pre-assembled compact linear belt solution for use in applications with existing guides & supports. This economical actuator features speeds up to 200 in/sec and thrusts up to 418 lbf. Built-to-order in stroke lengths up to 200 inches.



MOTOR ORIENTATION

YOU CAN CHOOSE:

- Direct drive option directly couples motor to the drive shaft; one-piece housing construction for optimum alignment and support of the motor
- Reduction option in 3:1 reduction (2:1 on MXB16)

INCH OR METRIC MOUNTING

- Your choice of blank, inch *(US standard)* or metric mounting to the plate

YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware - MXB is a "Your Motor Here" actuator for easy direct drive motor installation. Check our website (www.tolomatic.com/ymh) for complete information
- Specify and ship your device to Tolomatic for factory installation

OVERSIZED PULLEY BEARINGS

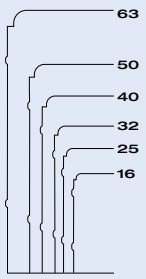
- Drive shaft assembly incorporates oversized shielded/sealed ball bearings for long life and high speeds

15 DAYS BUILT-TO-ORDER

MXB-U

SPECIFICATIONS: pg. 34

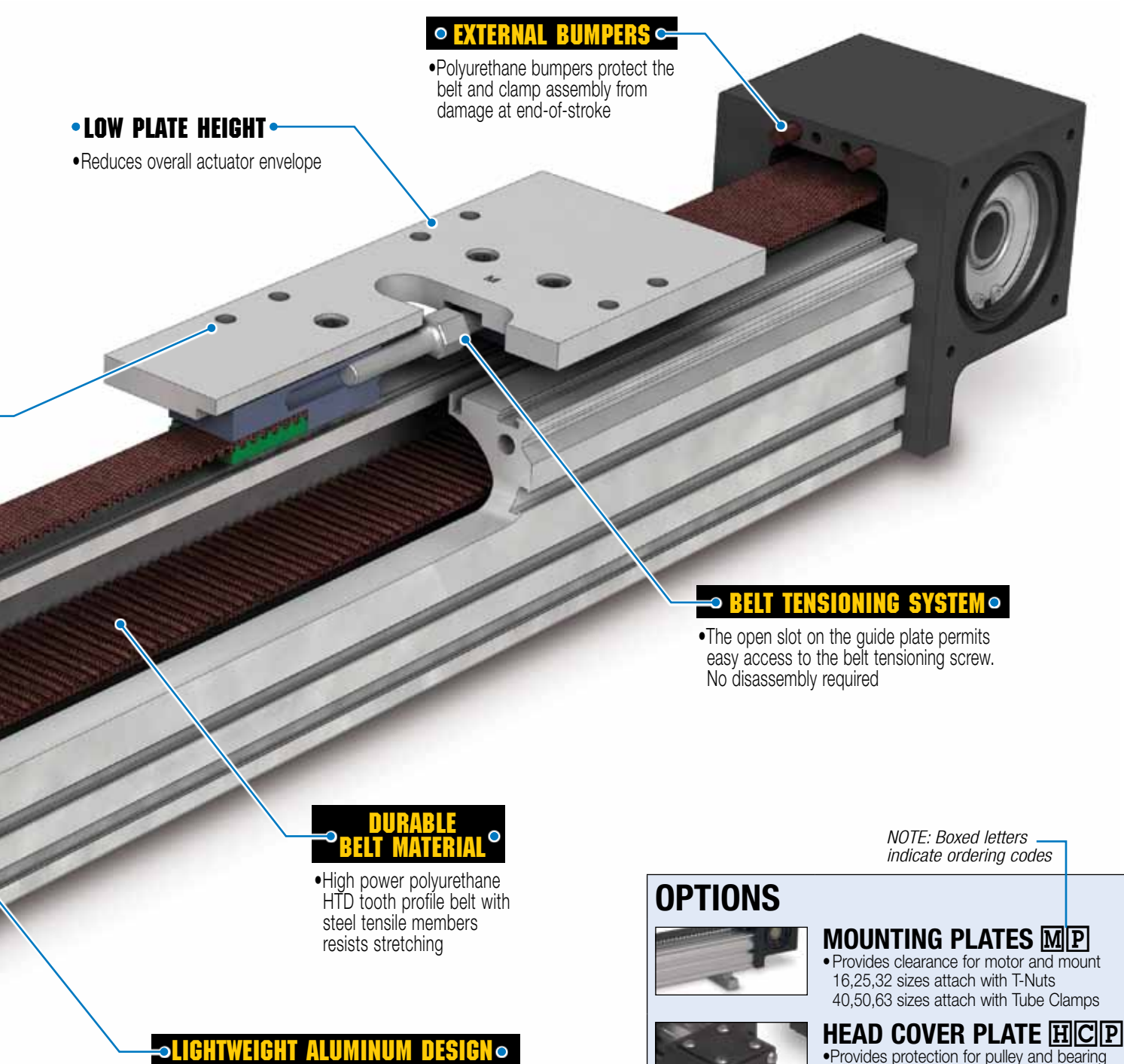
SIZES



MAXIMUM
STROKE: 200"
THRUST: 418 lbf
SPEED: 200 in/sec

COMPLETE INFORMATION:
www.tolomatic.com

...MAXIMUM DURABILITY



EXTERNAL BUMPERS

•Polyurethane bumpers protect the belt and clamp assembly from damage at end-of-stroke

LOW PLATE HEIGHT

•Reduces overall actuator envelope

BELT TENSIONING SYSTEM

•The open slot on the guide plate permits easy access to the belt tensioning screw. No disassembly required

DURABLE BELT MATERIAL

•High power polyurethane HTD tooth profile belt with steel tensile members resists stretching

LIGHTWEIGHT ALUMINUM DESIGN

•Clear anodized extrusion design is optimized for rigidity and strength

NOTE: Boxed letters indicate ordering codes

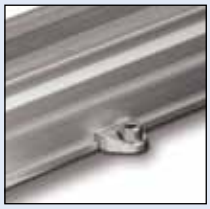
OPTIONS

MOUNTING PLATES [M][P]

- Provides clearance for motor and mount
  16,25,32 sizes attach with T-Nuts
  40,50,63 sizes attach with Tube Clamps

HEAD COVER PLATE [H][C][P]

- Provides protection for pulley and bearing



TUBE CLAMPS [T][C]

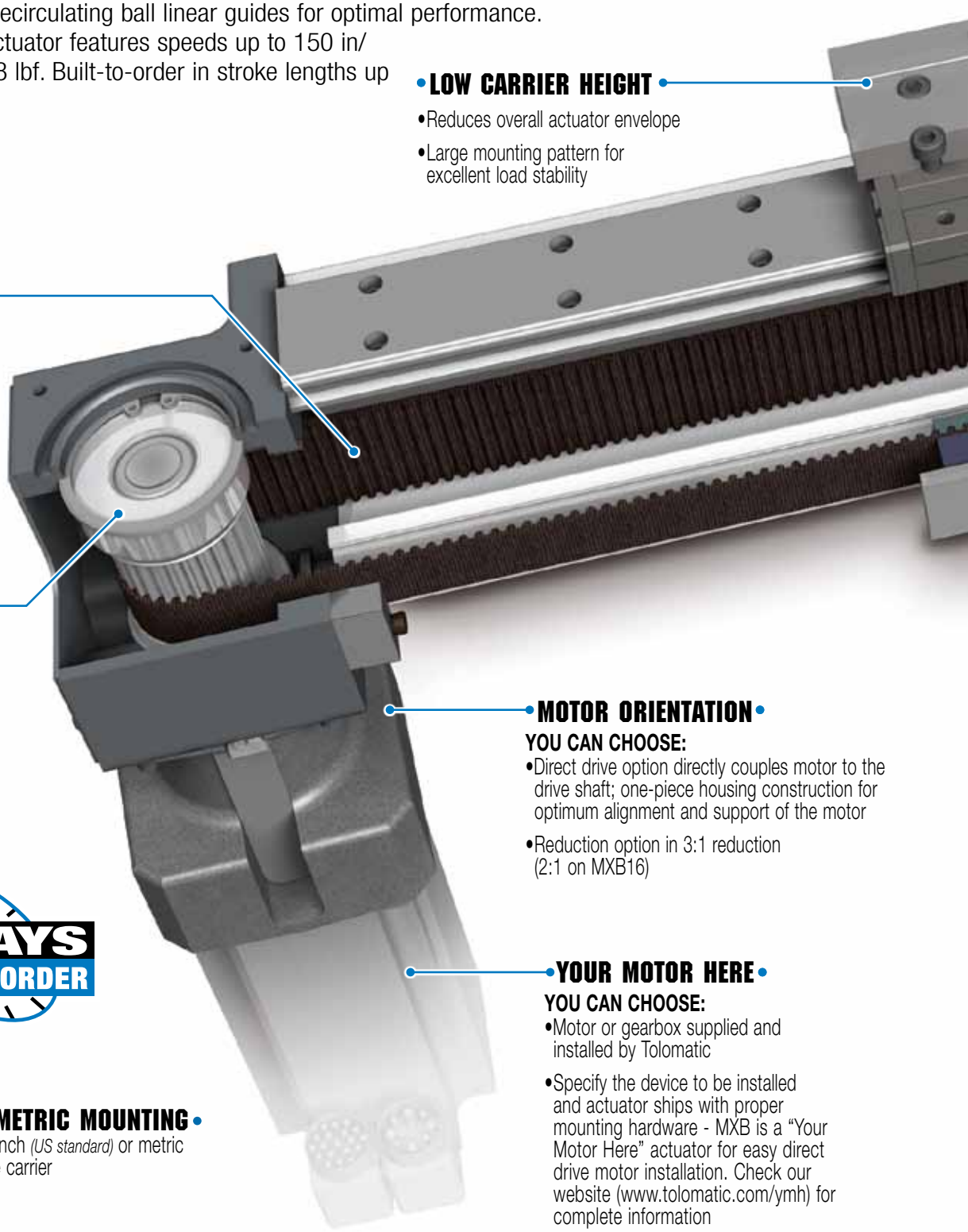
- Used for intermediate support
- Flush with bottom of actuator to retain low profile
- Drop-in, adjustable mounting locations (Not available on the MXB16U))

MXB-P PROFILED RAIL BELT DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology℠ features are designed for maximum durability to provide extended service life.

The MXB-P rodless electric belt-drive actuator is designed for applications requiring moderate to heavy load carrying and guidance. The MXB-P actuator features a profiled rail system with recirculating ball linear guides for optimal performance. The MXB-P belt-driven actuator features speeds up to 150 in/sec and thrusts up to 418 lbf. Built-to-order in stroke lengths up to 200 inches.



LOW CARRIER HEIGHT

- Reduces overall actuator envelope
- Large mounting pattern for excellent load stability

DURABLE BELT MATERIAL

- High power polyurethane HTD tooth profile belt with steel tensile members resists stretching

OVERSIZED PULLEY BEARINGS

- Drive shaft assembly incorporates oversized shielded/sealed ball bearings for long life and high speeds

MOTOR ORIENTATION

YOU CAN CHOOSE:

- Direct drive option directly couples motor to the drive shaft; one-piece housing construction for optimum alignment and support of the motor
- Reduction option in 3:1 reduction (2:1 on MXB16)

15 DAYS BUILT-TO-ORDER

YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware - MXB is a "Your Motor Here" actuator for easy direct drive motor installation. Check our website (www.tolomatic.com/ymh) for complete information
- Specify and ship your device to Tolomatic for factory installation

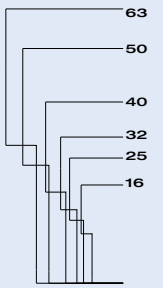
INCH OR METRIC MOUNTING

- Your choice of inch *(US standard)* or metric mounting to the carrier

MXB-P

SPECIFICATIONS: pg. 34

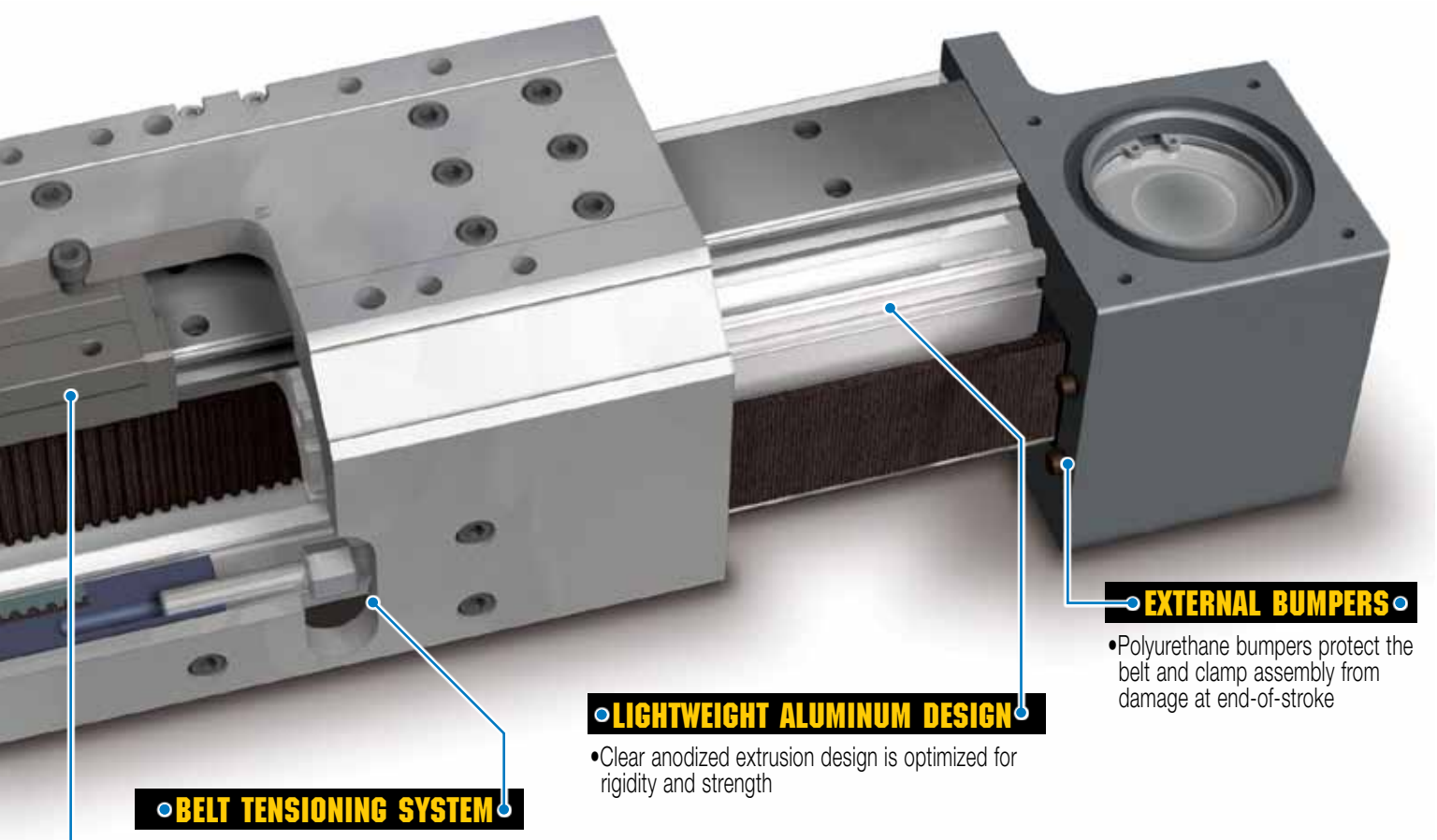
SIZES



MAXIMUM
STROKE: 200"
THRUST: 418 lbf
SPEED: 150 in/sec
LOAD: 2,583 lb

COMPLETE INFORMATION:
www.tolomatic.com

...MAXIMUM DURABILITY



EXTERNAL BUMPERS

- Polyurethane bumpers protect the belt and clamp assembly from damage at end-of-stroke

LIGHTWEIGHT ALUMINUM DESIGN

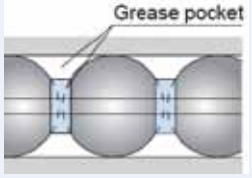
- Clear anodized extrusion design is optimized for rigidity and strength

BELT TENSIONING SYSTEM

- The open slot on the carrier side permits easy access to the belt tensioning screw. No disassembly required and no need to remove the load from the carrier

RECIRCULATING BALL BEARINGS

- Recirculating ball bearings are used to reduce friction and extend actuator life
- Designed with a grease pocket between ball elements to reduce friction, noise and maintenance
- Large permissible moment loads
- High speed operation, low heat generation
- High precision, smooth, low friction motion



NOTE: Boxed letters indicate ordering codes

OPTIONS

AUXILIARY CARRIER [D][C]

- 2X higher Fz & Fy (load) capacity
- High bending moment capacity

MOUNTING PLATES [M][P]

- Provides clearance for motor and mount
  16,25,32 sizes attach with T-Nuts
  40,50,63 sizes attach with Tube Clamps

TUBE CLAMPS [T][C]

- Used for intermediate support
- Flush with bottom of actuator to retain low profile
- Drop-in adjustable mounting locations

(Not available on the 16, 25 or 32 MXB-P sizes)

HEAD COVER PLATE [H][C][P]

- Provides protection for pulley and bearing

SWITCHES

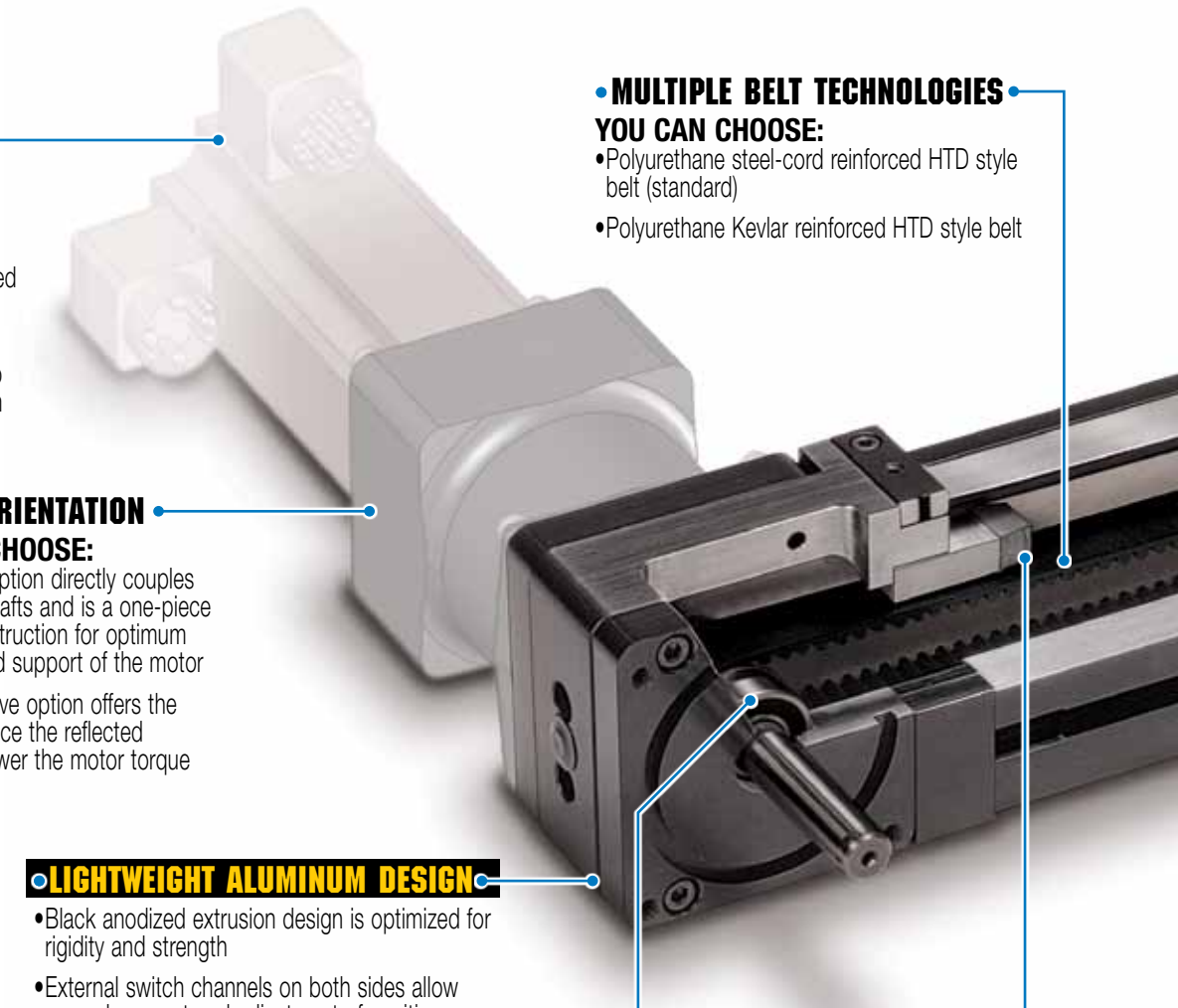
- Wide variety of sensing choices: Reed, Solid State PNP or NPN, available normally open or normally closed
- Flush mount, drop-in installation
- Bright LEDs, power & signal indication
- CE rated, RoHS compliant

B3W RODLESS BELT DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The B3W rodless style actuator is designed for carrying moderate to heavy loads at moderate to high speeds with large bending moment capacity. Based upon our BC3 pneumatic band cylinder, it utilizes a patented integral recirculating ball bearing guidance system that provides consistent and durable performance. The B3W belt-driven actuator features speeds up to 200 in/sec. and thrusts up to 325 lbf. Built-to-order in stroke lengths up to 292 inches.



YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation

MULTIPLE BELT TECHNOLOGIES

YOU CAN CHOOSE:

- Polyurethane steel-cord reinforced HTD style belt (standard)
- Polyurethane Kevlar reinforced HTD style belt

MOTOR ORIENTATION

YOU CAN CHOOSE:

- Direct drive option directly couples the driving shafts and is a one-piece housing construction for optimum alignment and support of the motor
- Reduction drive option offers the ability to reduce the reflected inertia and lower the motor torque requirements

LIGHTWEIGHT ALUMINUM DESIGN

- Black anodized extrusion design is optimized for rigidity and strength
- External switch channels on both sides allow easy placement and adjustment of position indicating switches

INTERNAL BUMPERS

- Bumpers protect the belt and clamp assembly from damage at end of stroke

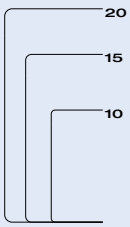
OVERSIZED PULLEY BEARINGS

- Drive shaft assembly incorporates sealed ball bearings for complete support of the increased belt tension at high speeds

B3W

SPECIFICATIONS: pg. 34

SIZES

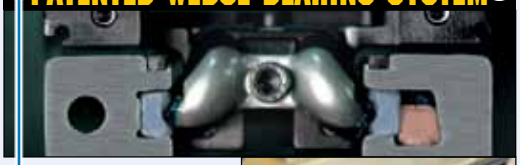


MAXIMUM
STROKE: 292"
THRUST: 325 lbf
SPEED: 200 in/sec
LOAD: 8,032 lb

COMPLETE INFORMATION:
www.tolomatic.com

...MAXIMUM DURABILITY

PATENTED WEDGE BEARING SYSTEM



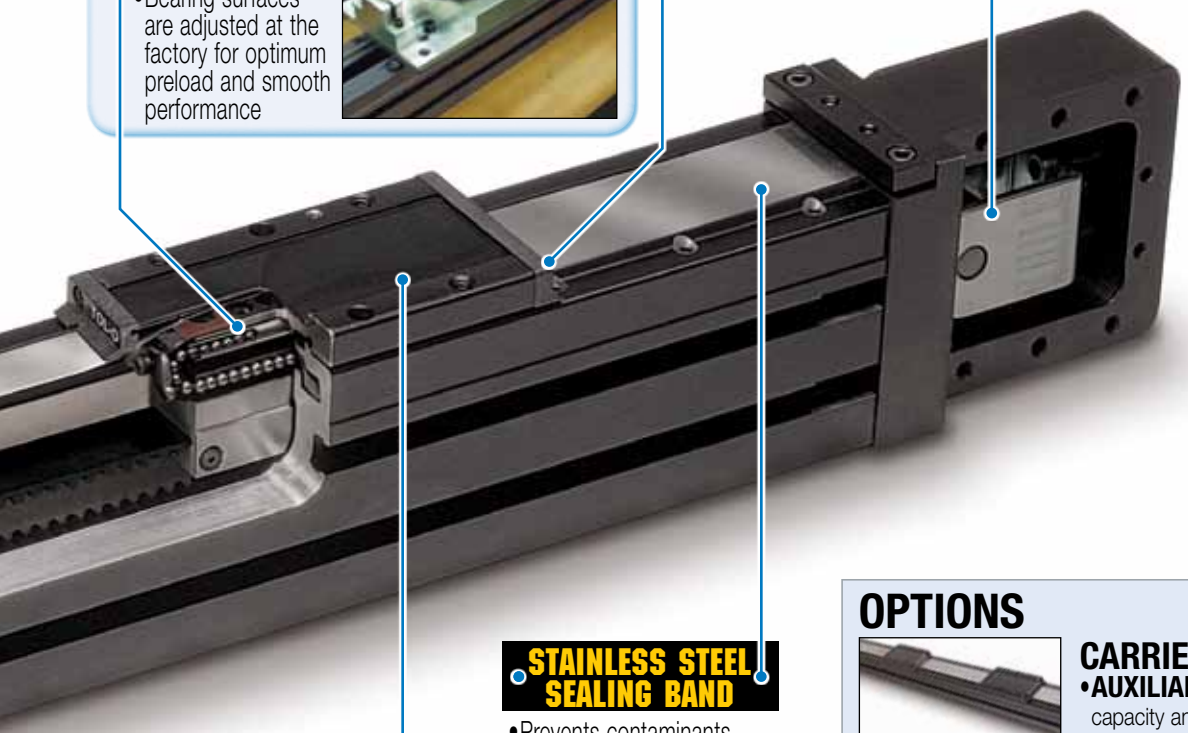
- Unique design incorporates hardened steel raceways integral to the aluminum extrusion
- Bearing surfaces are adjusted at the factory for optimum preload and smooth performance

FORMED END CAP WIPERS

- Prevent contaminants from entering the sealing band area to protect internal components

BELT TENSIONING SYSTEM

- Full access to the idle pulley allows ease of adjustment for alignment and tensioning
- Dual adjustment screws and field tensioning kit provide simple maintenance



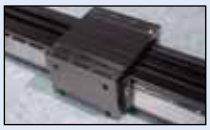
LOAD-BEARING CARRIER DESIGN

- Recirculating ball bearing system provides guidance, high efficiency and long life
- Load and moments are transmitted directly to the actuator body

STAINLESS STEEL SEALING BAND

- Prevents contaminants from entering the belt and pulley area for extended performance
- Fatigue resistant stainless steel bands are specifically made to offer long life and will not elongate
- Provides IP44 protection for bearings and interior components

OPTIONS



CARRIER OPTIONS

- **AUXILIARY CARRIER** doubles the load capacity and increases pitch and yaw bending moment capacities
- **DUAL 180° CARRIER** doubles the load capacity, increases roll and yaw bending moment capacities and offers a wide mounting platform

MOUNTING OPTIONS

- **SURFACE MOUNT** two t-slots are integral on the entire underside of the actuator body for direct mounting
- **TUBE SUPPORTS** provide intermediate support of the actuator body throughout long stroke lengths

METRIC OPTION

Provides metric tapped holes for mounting of load to carrier and of actuator to mating surfaces

SWITCHES

Styles include: reed, hall-effect or triac

TKB PRECISION BELT DRIVE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The TKB linear table style actuator is designed for high speed applications requiring high precision in parameters such as flatness and straightness. This unique actuator utilizes two parallel profiled rails with four recirculating ball linear guides to provide wide and stable mounting surface with consistent and precise performance. The TKB belt-driven actuator features speeds up to 100 in/sec. and thrusts up to 245 lbf. Built-to-order in stroke lengths up to 96 inches.

MULTIPLE BELT TECHNOLOGIES YOU CAN CHOOSE:

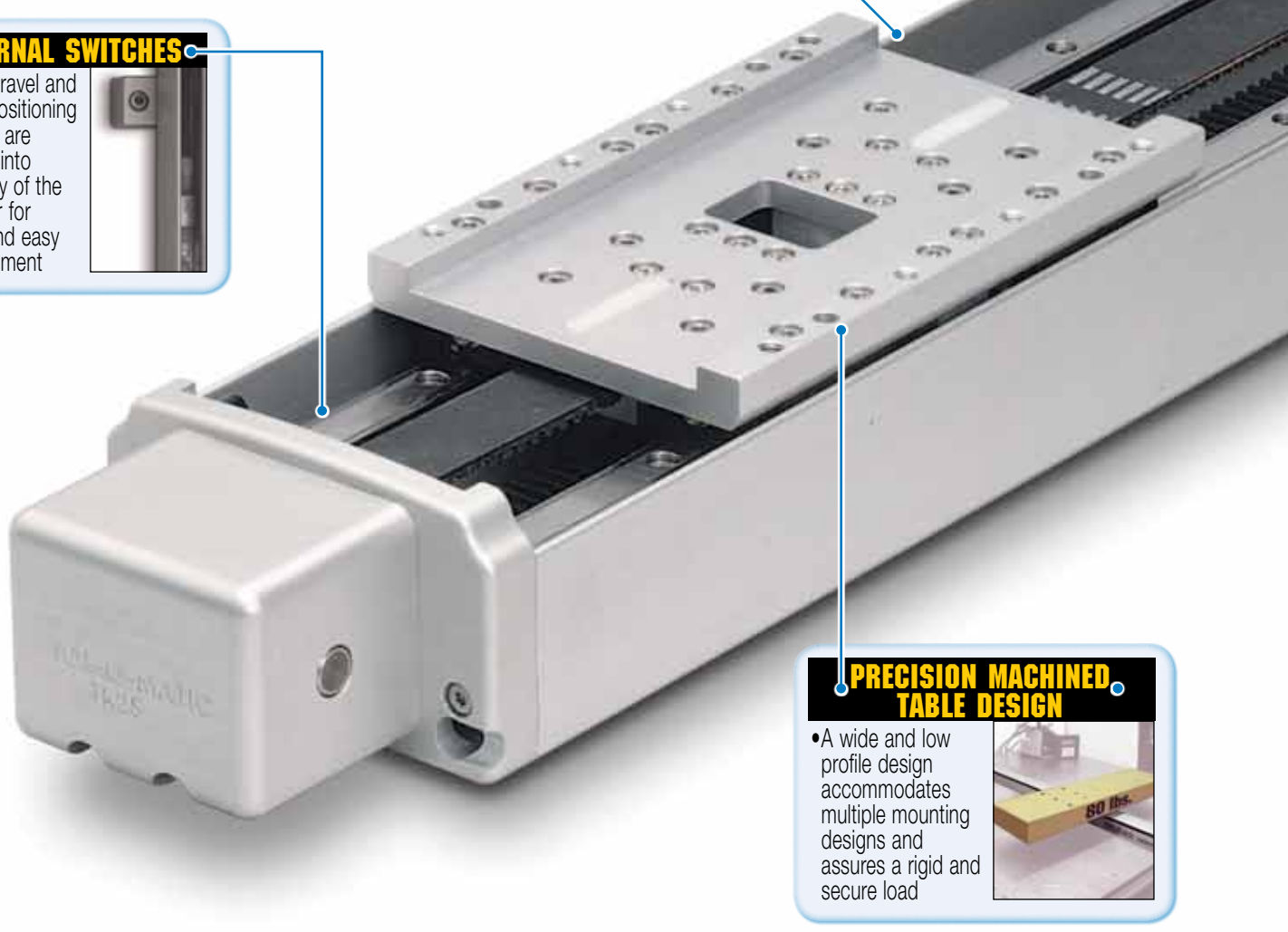
- Polyurethane steel-cord reinforced HTD style belt (standard)
- Polyurethane Kevlar reinforced HTD style belt

REMOVABLE COVER

- Provides rapid access to internal components and protects mechanisms from incidental damage

INTERNAL SWITCHES

- End of travel and home positioning sensors are integral into the body of the actuator for clean and easy management



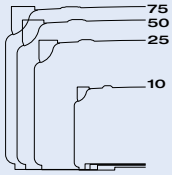
PRECISION MACHINED TABLE DESIGN

- A wide and low profile design accommodates multiple mounting designs and assures a rigid and secure load

TKB

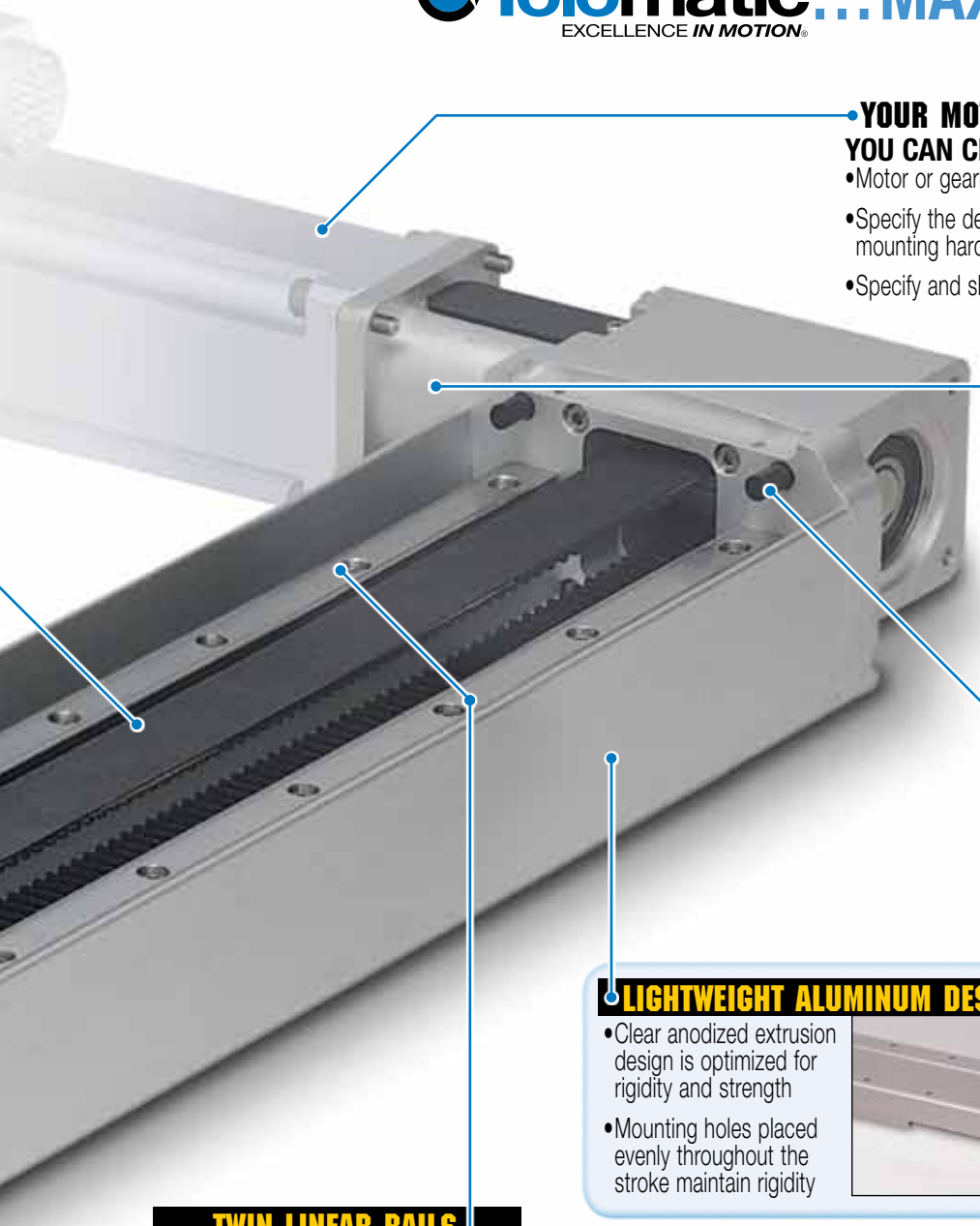
SPECIFICATIONS: pg. 35

SIZES



MAXIMUM
STROKE: 96"
THRUST: 245 lbf
SPEED: 100 in/sec
LOAD: 1,500 lb

COMPLETE INFORMATION:
www.tolomatic.com



YOUR MOTOR HERE

YOU CAN CHOOSE:

- Motor or gearbox supplied and installed by Tolomatic
- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation

MOTOR ORIENTATION

YOU CAN CHOOSE:

- Direct drive option directly couples the driving shafts and is a one-piece housing construction for optimum alignment and support of the motor
- Reduction drive option offers the ability to reduce the reflected inertia and lower the motor torque requirements

EXTERNAL BUMPERS

- External bumpers, both ends, are standard
- Protect actuator and load from damage

LIGHTWEIGHT ALUMINUM DESIGN

- Clear anodized extrusion design is optimized for rigidity and strength
- Mounting holes placed evenly throughout the stroke maintain rigidity

TWIN LINEAR RAILS AND BEARINGS

- The industry leading bearing system is installed for consistent tracking, low friction and extended performance
- Superior straightness and flatness is verified at the factory below 0.0002 inches per inch
- Four bearing blocks provide rigid support of the carrier with the lowest possible deflection

OPTIONS

CARRIER OPTIONS

- **AUXILIARY CARRIER** Doubles the load capacity and increases pitch and yaw bending moment capacities

SEALING OPTIONS

- **BELLOWS** provides additional protection of mechanical components in dirty environments

SWITCHES

Styles include: reed or hall-effect.
15ft potted cable with flying leads

15 DAYS BUILT-TO-ORDER

ERD – ELECTRIC ROD-STYLE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The ERD is an economical rod-style electric actuator designed as an alternate to pneumatic cylinders and an option for automating manual processes. The ERD is compatible with many NEMA & metric mount stepper and servo motors to create a flexible, powerful electric actuator solution. Built-to-order in stroke lengths up to 24 inches.

15 DAYS BUILT-TO-ORDER

PATENT PENDING

MULTIPLE SCREW TECHNOLOGIES YOU CAN CHOOSE:

- Solid nuts of engineered resins offer quiet performance at the lowest cost

- Ball nuts offer positioning accuracy and repeatability with longer life

THREADED NOSE MOUNT WITH JAM NUT

- Metric threads
- Convenient mounting for many applications

MALE THREADED ROD END

- Standard metric threads
- Compatible with many commercially available metric rod end accessories

NOSE BEARING

- Engineered resins for smooth operation
- Provides critical support of thrust rod

STAINLESS-STEEL THRUST TUBE

- 300 series stainless-steel thrust tube provides high rigidity and corrosion resistance

INTEGRAL GUIDE RODS AND BEARINGS

- Stainless-steel guide rods provide high rigidity and low deflection
- Four composite bearings support the load for smooth consistent motion

ERD

SPECIFICATIONS: pg. 35

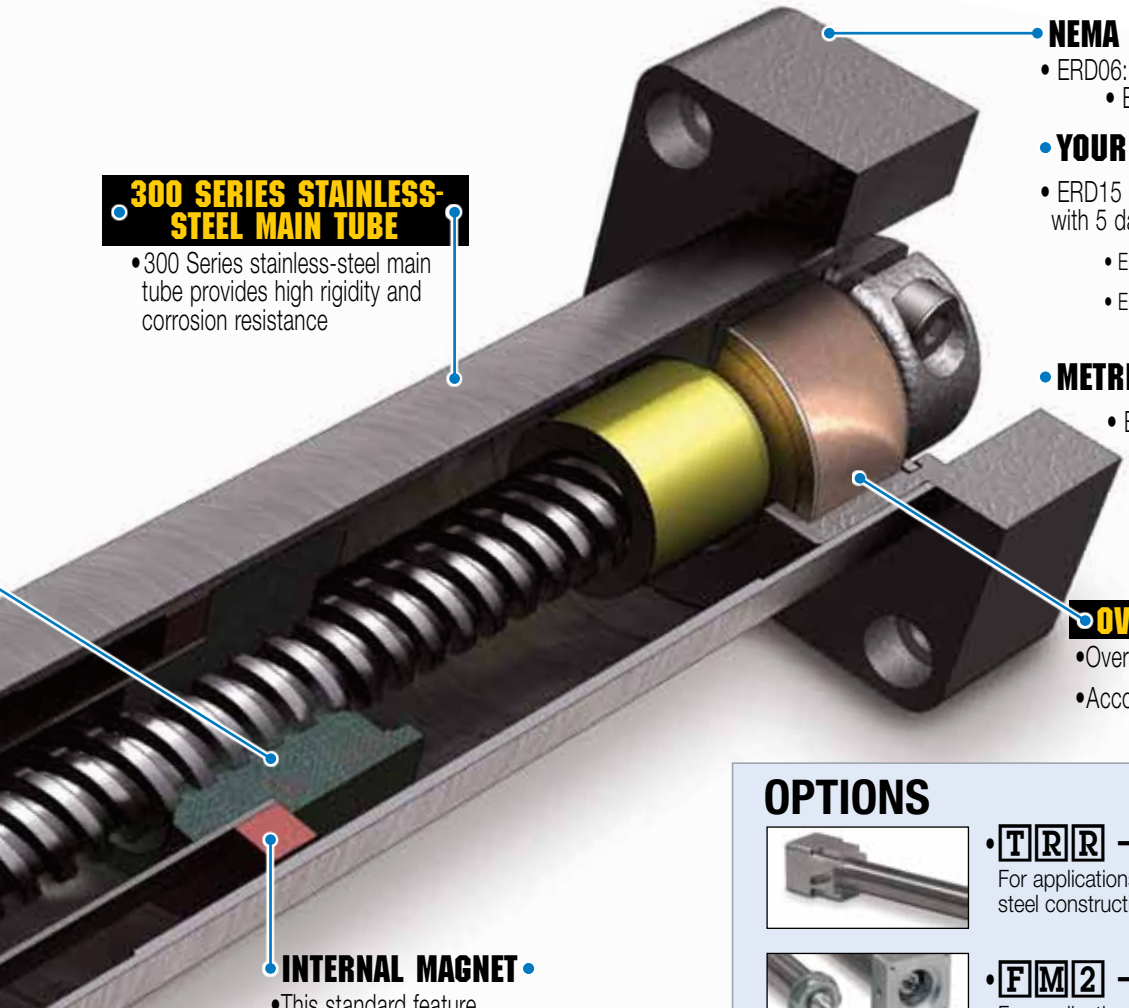
SIZES

20
15
10
06

MAXIMUM
STROKE: 24"
THRUST: 500 lbf
SPEED: 40 in/sec

COMPLETE INFORMATION:
www.tolomatic.com

...MAXIMUM DURABILITY



NEMA MOTOR MOUNT

- ERD06: NEMA11
- ERD10: NEMA17
- ERD15: NEMA23

YOUR MOTOR HERE

- ERD15 & 20: Over 500 motor mounts available with 5 day delivery.
  - ERD15: NEMA23 or 60mm metric
  - ERD20: NEMA23 or 60mm metric & NEMA34 or 80mm metric

METRIC MOTOR MOUNT (OPTION)

- ERD10: 40mm Frame
- Made of aluminum
- ⊗ Not available for 06,15 & 20 sizes

300 SERIES STAINLESS-STEEL MAIN TUBE

- 300 Series stainless-steel main tube provides high rigidity and corrosion resistance

OVERSIZED MAIN BEARING

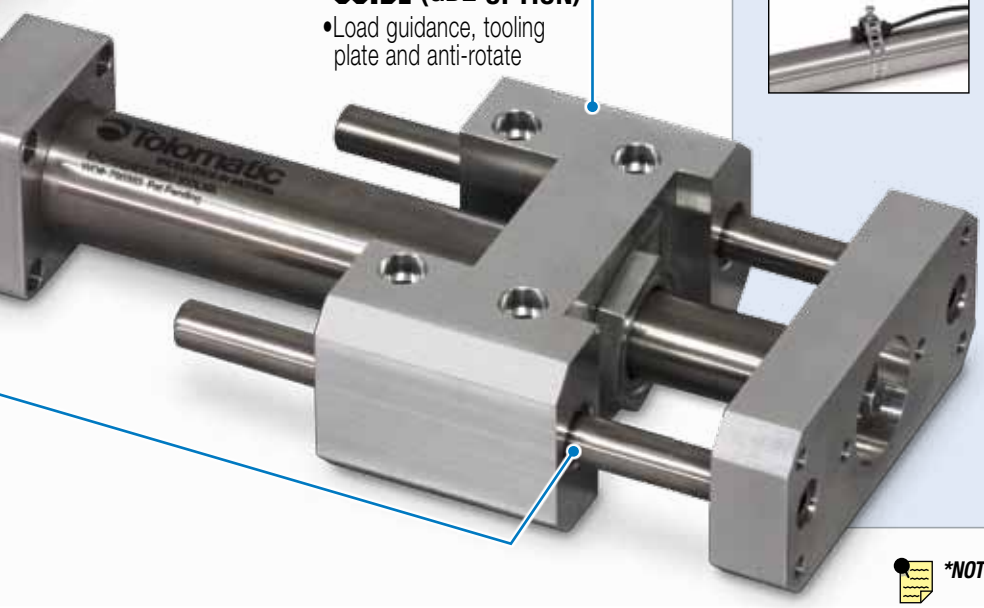
- Oversized for long life
- Accommodates high thrust load

INTERNAL MAGNET

- This standard feature accommodates reed and solid state switches anywhere on the main tube

GUIDE (GD2 OPTION)

- Load guidance, tooling plate and anti-rotate



OPTIONS

• TRR – TRUNNION MOUNT
For applications that require pivoting, 300 series stainless steel construction

• FM2 – FOOT MOUNT*
For applications that require bottom mounting, 300 series stainless steel construction

• FFG – FRONT FLANGE MOUNT*
For front mounting applications, 300 series stainless steel construction

• SWITCHES*
Choose from: Reed, Solid State PNP or NPN, all available in normally open

• IP67 – IP67
An IP67 upgrade (static rating) for protection against water and dust ingress (see page ERD_6)

• SS1 – STAINLESS STEEL
Same ERD actuator made of all 300 series stainless steel for corrosion resistance. Available on all sizes.

• SS2 – STAINLESS STEEL
SS1 option plus IP67 and protective motor enclosure (see page ERD_6) ⊗ Not available for ERD06 & ERD20

• GD2 – GUIDE
For applications that require anti-rotation, or guidance and load bearing. Made of lightweight aluminum

NOTE: Foot Mount, Front Flange Mount and Switches are shipped together with the actuator but are not installed by Tolomatic.

SmartActuator ICR PLUS
INTEGRATED CONTROL ROD-STYLE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life. This endurance technology symbol indicates our durability design features.

15 DAYS BUILT-TO-ORDER

The SmartActuator is a controller, drive and motor integrated into one compact, durable, lightweight actuator. Designed for simple extend and retract operation the ICR Basic can easily be installed and set up by anyone familiar with pneumatic or hydraulic cylinders. For flexibility, the Plus offers indexer programming and network communication capabilities for a wide variety of demanding applications. Built-to-order in stroke lengths up to 24 inches.

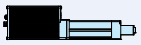
ICR PLUS - EXCLUSIVE OPTION

COMMUNICATION PORTS

- DeviceNet – daisy chain up to 63 actuators
- Two ports for easy daisy chain wiring
- Optional CANopen – daisy chain up to 127 actuators *(CANopen device profile DSP-402)*

MOTOR ORIENTATION

YOU CAN CHOOSE



- LMI In-line option directly couples the driving shaft and is a one-piece housing construction for optimum alignment and support of the motor

- RP Reverse-parallel option minimizes the overall length and offers 1:1 or 2:1 belt ratio

BALL SCREW TECHNOLOGY

- Oversized ball screw selection for extremely long service life
- Lubricated for life of actuator at the factory with the highest quality synthetic grease

THRUST TUBE

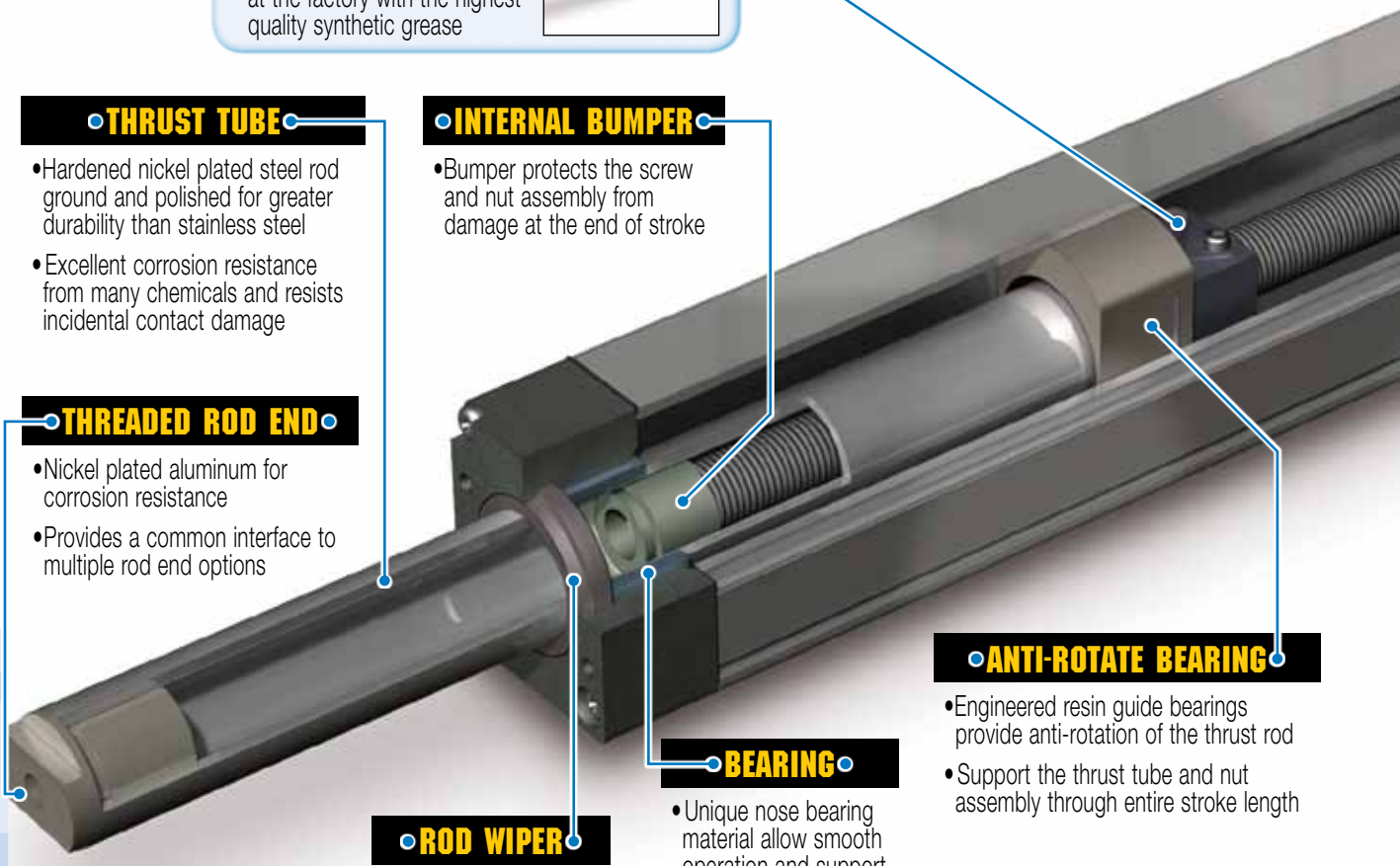
- Hardened nickel plated steel rod ground and polished for greater durability than stainless steel
- Excellent corrosion resistance from many chemicals and resists incidental contact damage

INTERNAL BUMPER

- Bumper protects the screw and nut assembly from damage at the end of stroke

THREADED ROD END

- Nickel plated aluminum for corrosion resistance
- Provides a common interface to multiple rod end options



ANTI-ROTATE BEARING

- Engineered resin guide bearings provide anti-rotation of the thrust rod
- Support the thrust tube and nut assembly through entire stroke length

BEARING

- Unique nose bearing material allow smooth operation and support of the thrust rod

ROD WIPER

- Prevents contaminants from entering the housing for extended life of the actuator

ICR

SPECIFICATIONS: pg. 35

SIZES

20

MAXIMUM
STROKE: 24"
THRUST: 720 lbf
SPEED: 25 in/sec

COMPLETE INFORMATION:
www.tolomatic.com

ICR PLUS – EXCLUSIVE FEATURE

DIGITAL DRIVE

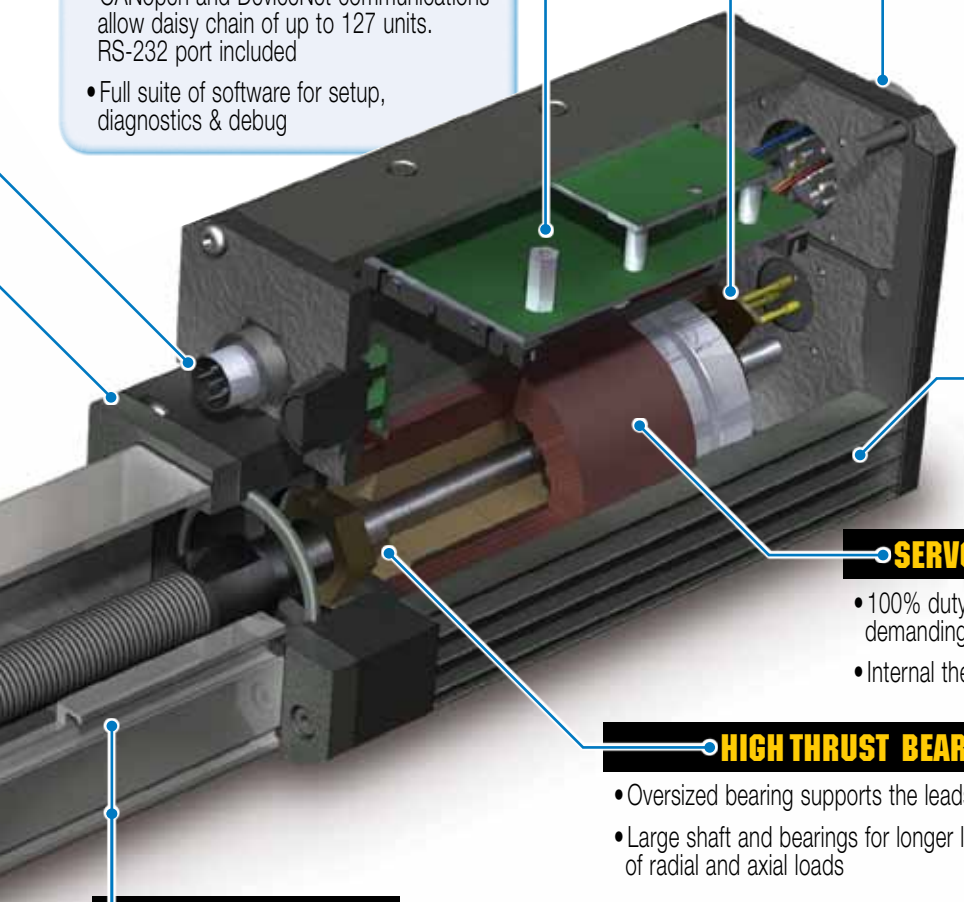
- Advanced indexer programming environment for maximum flexibility to solve the most demanding applications
- CANopen and DeviceNet communications allow daisy chain of up to 127 units. RS-232 port included
- Full suite of software for setup, diagnostics & debug

DIGITAL ENCODER

- For closed loop control

CONNECTORS

- Standard
- Optional IP65



ALUMINUM MOTOR ENCLOSURE

- Fins provide thermal heat dissipation for higher performance

SERVO MOTOR

- 100% duty cycle for demanding applications
- Internal thermal protection

HIGH THRUST BEARING

- Oversized bearing supports the leadscrew and motor
- Large shaft and bearings for longer life and tolerance of radial and axial loads

LIGHTWEIGHT ALUMINUM DESIGN

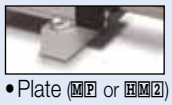
- Clear anodized extrusion design is optimized for rigidity and strength
- External switch channels and mounting channels along full length on both sides allow easy placement of position indicating switches and tube clamps/mounting plates

FLEXIBLE MOUNTING

- Front face and bottom mounting holes are standard
- Options: front flange, plates, tube clamps, trunnions, rear clevis (RP models only)

OPTIONS

MOUNTING


• Plate (MP or HM2)


• Tube Clamps


• Front Flange


• Trunnion


• Clevis

ROD END


• External Threads


• Clevis


• Eye


• Alignment Coupler

BRAKE


For vertical applications and energy savings when ICR is not in use

IP65


For protection against water and dust ingress

COMM. PORTS
For DeviceNet & CANopen, see above

CABLES


- Signal Cable (5m, IP40 or IP65)
- Power Cable (5m, IP40 or IP65)
- Communication cable (1m or 5m)

STARTER KIT USB to CANopen converter and comm. cables

SWITCHES


Styles include: Reed, Solid State PNP or NPN, all available in normally open or normally closed. RoHs compliant, CE rated

RSA ROD-STYLE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The RSA rod screw actuator is ideal for medium to high thrust applications of guided loads. The compact design and cylinder style operation make this solution ideal for applications that were historically solved with pneumatic or hydraulic power. Many mounting options are available allowing the actuator to be installed in numerous applications. Built-to-order in stroke lengths up to 60 inches with your choice of screw technology.

15 DAYS BUILT-TO-ORDER

MULTIPLE SCREW TECHNOLOGIES

YOU CAN CHOOSE:

- Solid nuts of bronze or engineered resins offer quiet performance at the lowest cost; anti-backlash available

- Ball nuts offer efficiency at a cost effective price; low-backlash available

- Roller nuts provide the highest thrust and life ratings available

SCREW SUPPORT BEARING

- Engineered resin bearing provides continuous support of screw

THRUST TUBE

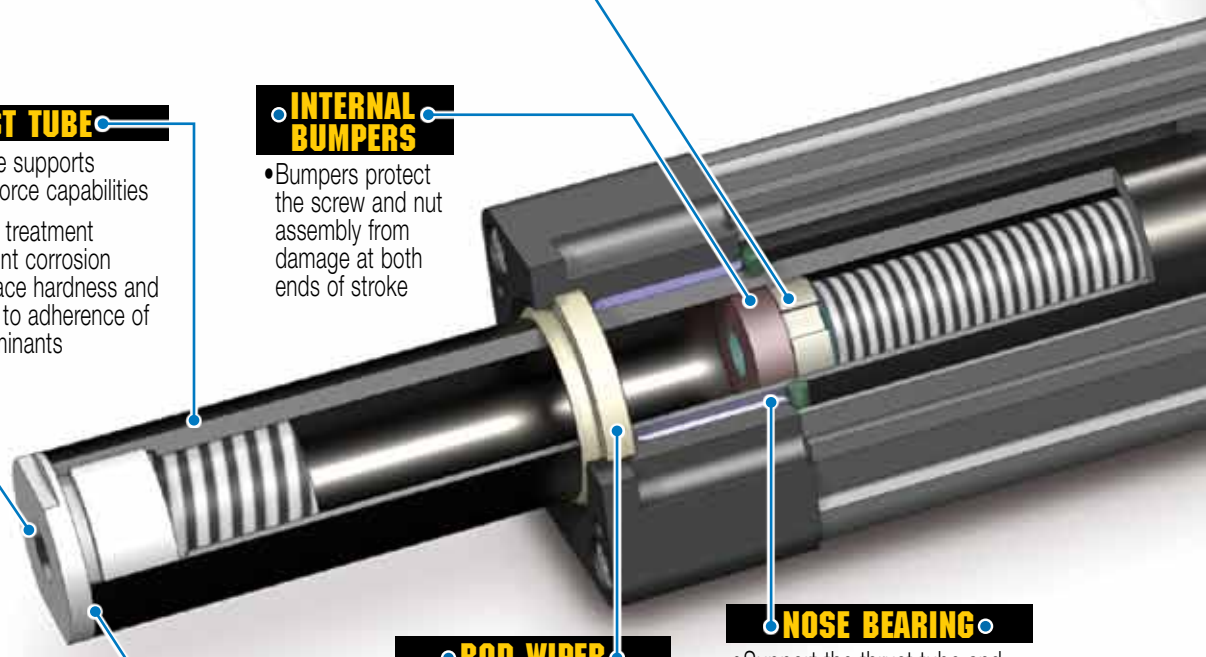
- Steel thrust tube supports extremely high force capabilities
- Salt bath nitride treatment provides excellent corrosion resistance, surface hardness and is very resistant to adherence of potential contaminants

INTERNAL BUMPERS

- Bumpers protect the screw and nut assembly from damage at both ends of stroke

THREADED ROD END

- Provides a common interface to multiple rod end options



OPTIONAL GREASE ZERK

- Provided with roller nut/screw this relubrication system provides extended screw service life
- Convenient lubrication without disassembly

ROD WIPER

- Prevents contaminants from entering the housing for extended life of the actuator

NOSE BEARING

- Support the thrust tube and nut assembly through entire stroke length
- Unique nose bearing material allows for smooth operation and support of the thrust rod

RSA

SPECIFICATIONS: pg. 35

SIZES

64
50
32
24
16
12

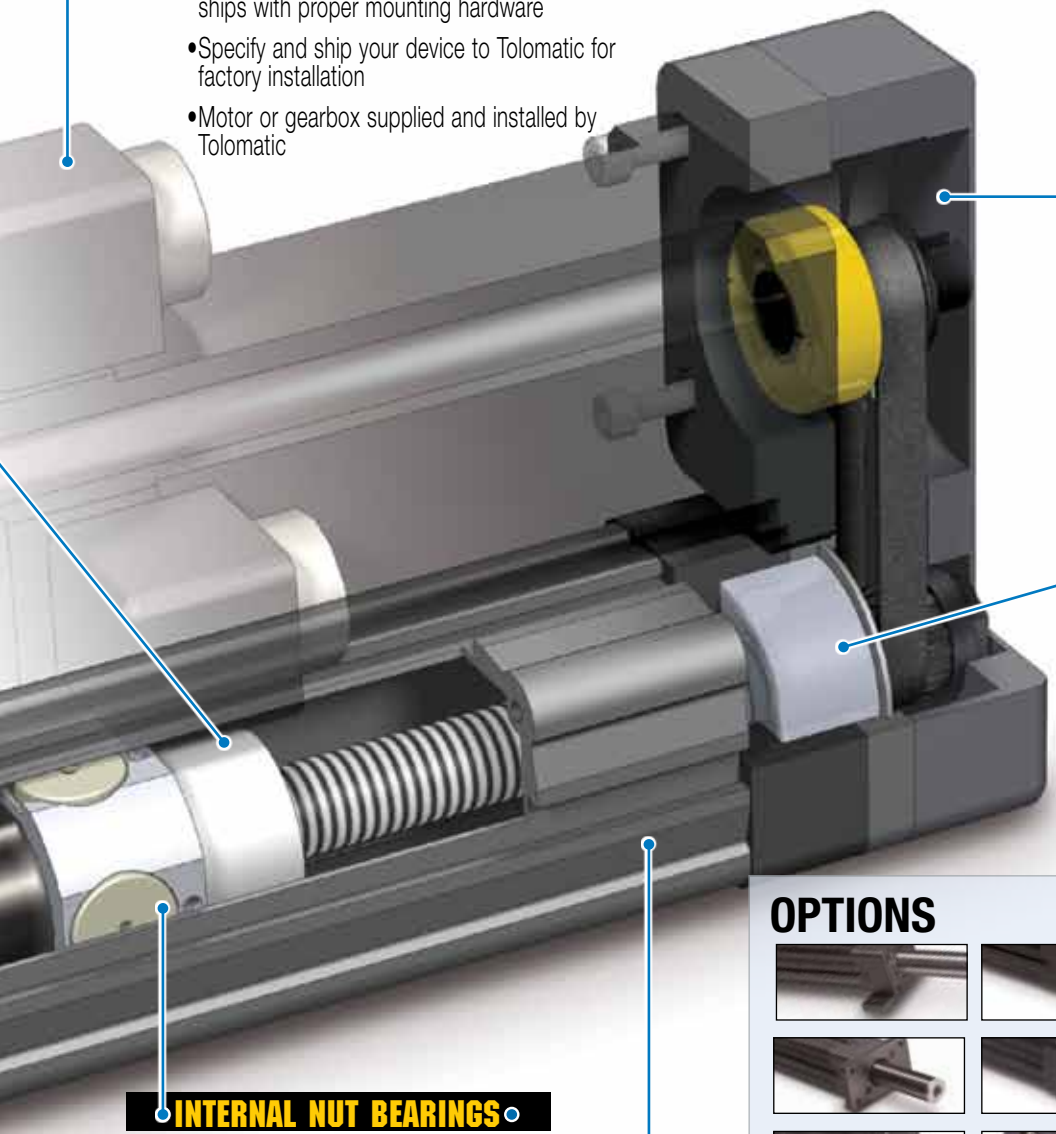
MAXIMUM
STROKE: 60"
THRUST: 7,350 lbf
SPEED: 123 in/sec

COMPLETE INFORMATION:
www.tolomatic.com

YOUR MOTOR HERE

YOU CAN CHOOSE:

- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation
- Motor or gearbox supplied and installed by Tolomatic



MOTOR ORIENTATION

YOU CAN CHOOSE:

- Inline option directly couples the driving shaft and is typically a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a belt reduction drive with a 1:1 or 2:1 ratio

HIGH THRUST BEARING

- Unique high thrust bearing assembly design eliminates runout and isolates the linear forces for the drive shaft

INTERNAL NUT BEARINGS

- Engineered resin guide bearings provide anti-rotation of the thrust rod
- Support the thrust tube and nut assembly through entire stroke length

LIGHTWEIGHT ALUMINUM DESIGN

- Black anodized extrusion design is optimized for rigidity and strength
- External switch channels on all sides allow easy placement of position indicating switches

INGRESS PROTECTION

- Gasket Kits available upon request for ingress protection against splashing water and dust

OPTIONS

MOUNTING

- Plate
- Foot
- Front Flange
- Rear Flange
- Clevis
- Eye
- Trunnion

ROD END

- External Threads
- Clevis
- Eye
- Alignment Coupler
- Rod Extension

METRIC OPTION

Provides metric tapped holes for mounting of load to rod end and of actuator to mating surfaces

SWITCHES

Choose from: Reed, Solid State PNP or NPN, all available normally open or normally closed

GSA GUIDED ROD-STYLE ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The GSA guided screw actuator is ideal for medium to high thrust applications. The self-contained guided rod design and cylinder slide style operation make this solution ideal for applications requiring guidance and support of the load. A robust, wide tooling plate allows easy mounting of the required end effectors for many applications. Built-to-order in stroke lengths up to 36 inches with your choice of screw technology.

MULTIPLE SCREW TECHNOLOGIES

YOU CAN CHOOSE:

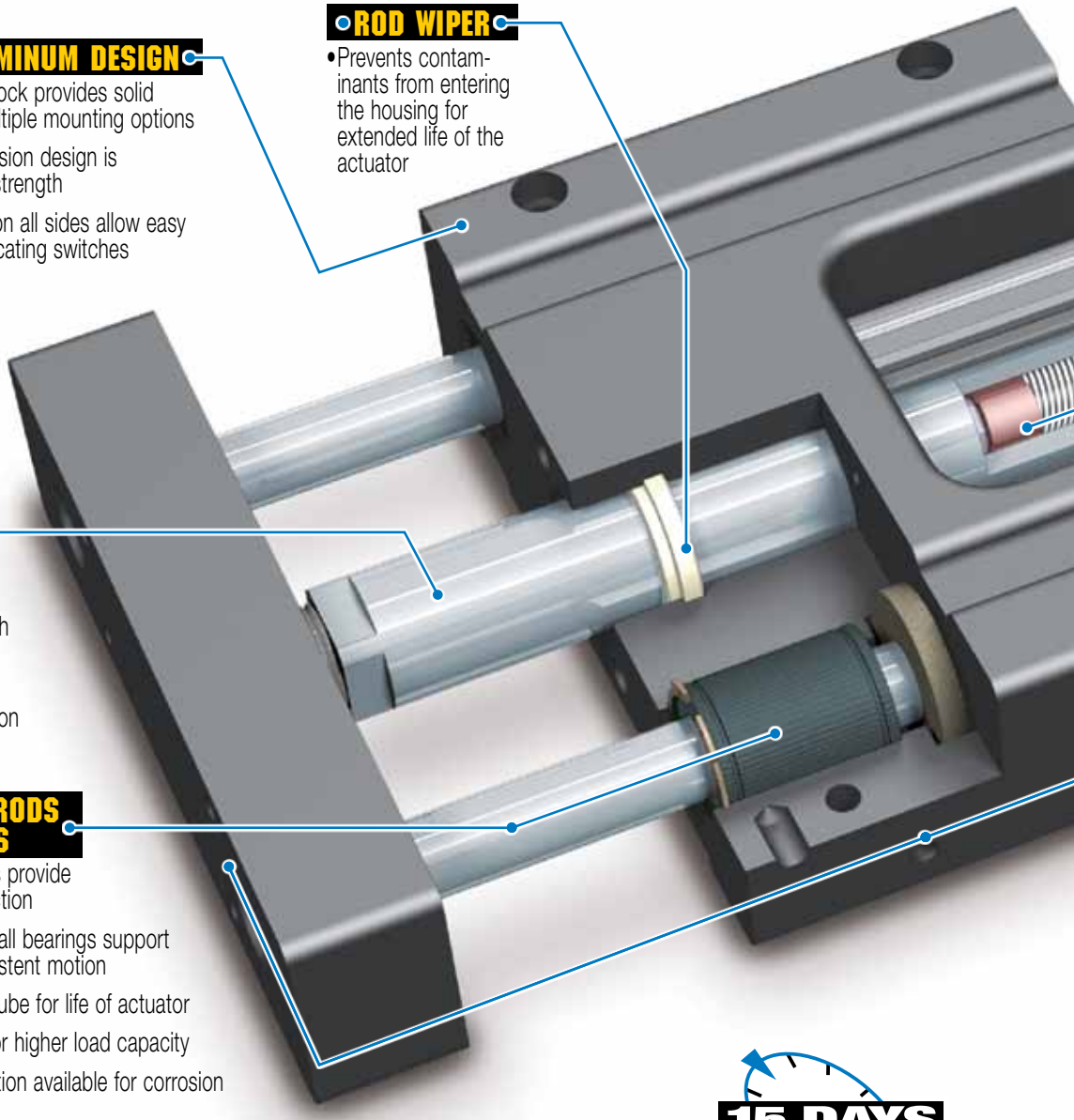
- Solid nuts of bronze or engineered resins offer quiet performance at the lowest cost; anti-backlash available
- Ball nuts offer efficiency at a cost effective price; low-backlash available
- Roller nuts (available on request) provide the highest thrust and life ratings available

LIGHTWEIGHT ALUMINUM DESIGN

- Black anodized bearing block provides solid structural support and multiple mounting options
- Black anodized tube extrusion design is optimized for rigidity and strength
- External switch channels on all sides allow easy placement of position indicating switches

ROD WIPER

- Prevents contaminants from entering the housing for extended life of the actuator



ANODIZED ALUMINUM THRUST TUBE

- Lightweight design directly provides thrust with minimal additional inertia
- Corrosion resistant plating provides excellent protection from many chemicals

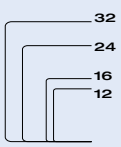
INTEGRAL GUIDE RODS AND BEARINGS

- Hardened steel guide rods provide high rigidity and low deflection
- Four composite or linear ball bearings support the load for smooth, consistent motion
- Lubrication wick supplies lube for life of actuator
- Oversized rods available for higher load capacity
- Stainless steel shafting option available for corrosion resistance

GSA

SPECIFICATIONS: pg. 35

SIZES



MAXIMUM
STROKE: 36"
THRUST: 2,700 lbf
SPEED: 123 in/sec
LOAD: 1,200 lb

COMPLETE INFORMATION:
www.tolomatic.com

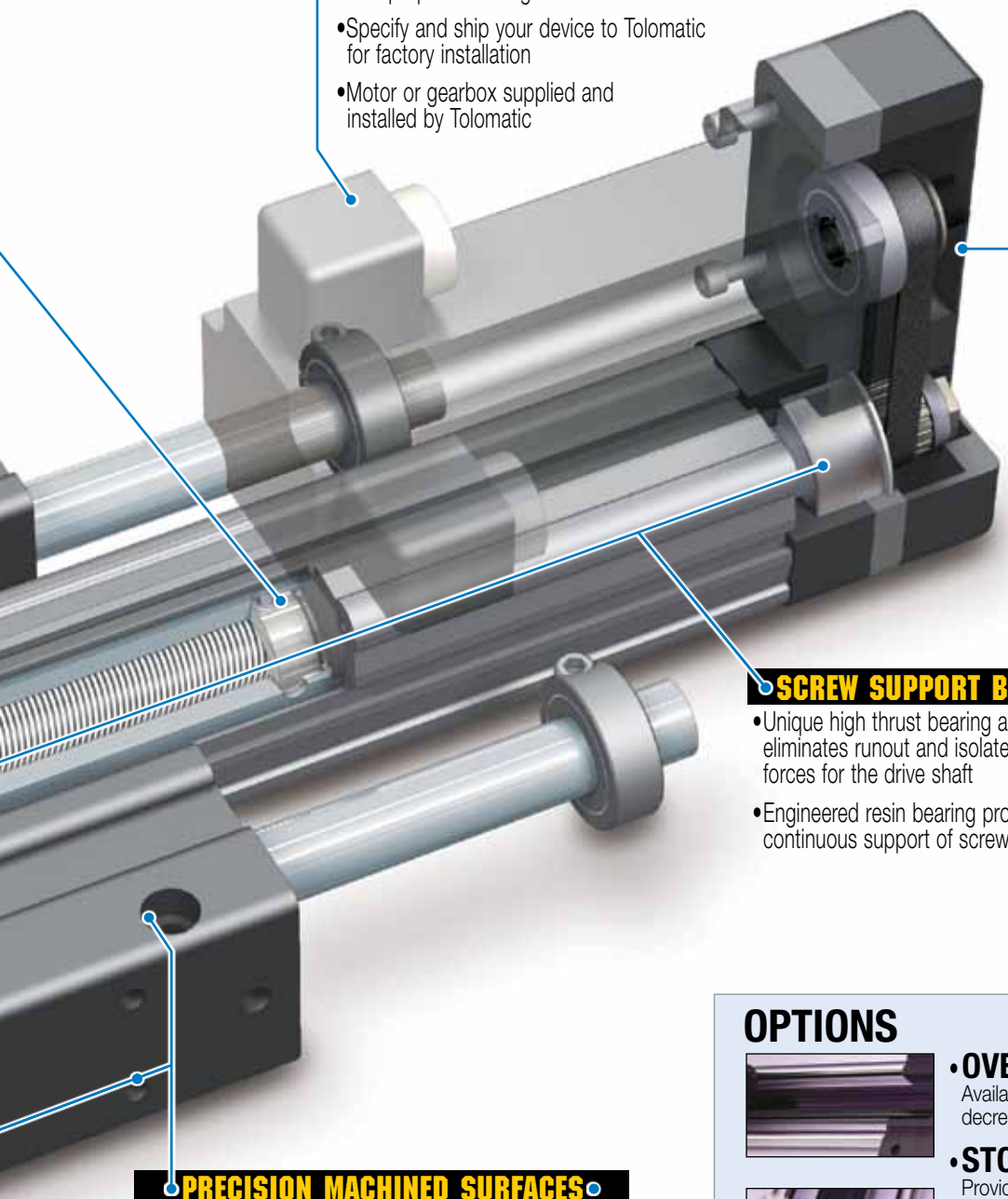
15 DAYS BUILT-TO-ORDER

...MAXIMUM DURABILITY

YOUR MOTOR HERE

YOU CAN CHOOSE:

- Specify the device to be installed and actuator ships with proper mounting hardware
- Specify and ship your device to Tolomatic for factory installation
- Motor or gearbox supplied and installed by Tolomatic



MOTOR ORIENTATION

YOU CAN CHOOSE:

- Inline option directly couples the driving shafts and is typically a one-piece housing construction for optimum alignment and support of the motor
- Reverse-parallel option minimizes the overall length and offers a 1:1 or 2:1 belt ratio

SCREW SUPPORT BEARINGS

- Unique high thrust bearing assembly design eliminates runout and isolates the linear forces for the drive shaft
- Engineered resin bearing provides continuous support of screw

PRECISION MACHINED SURFACES

- Extruded bearing housing is precision machined on two surfaces for true and easily aligned linear motion
- Tooling plate is aligned and assembled to provide a precise mounting surface

INGRESS PROTECTION

- Gasket Kits available upon request for ingress protection against splashing water and dust

OPTIONS

OVERSIZED GUIDE RODS
Available for increased load capacity or decreased deflection

STOP COLLARS
Provide a positive stop mechanism when required

CORROSION RESISTANCE
Includes 316 stainless steel guide rods and fasteners for better environmental protection

METRIC OPTION
Provides metric tapped holes for mounting of load to tooling plate and of actuator to mating surfaces

SWITCHES
Choose from: Reed, Solid State PNP or NPN, all available normally open or normally closed

IMA INTEGRATED MOTOR ACTUATOR

ENDURANCE TECHNOLOGY℠

Endurance Technology features are designed for maximum durability to provide extended service life.

The IMA is a compact, durable, high force rod-style actuator. The IMA integrates a servo motor into a ball or roller screw-driven actuator to provide efficient high force in a compact lightweight design envelope. Our patent-pending design allows for easy re-lubrication without disassembly for extremely long service life. Built-to-order in stroke lengths up to 18 inches with your choice of screw technology.

MULTIPLE SCREW TECHNOLOGIES YOU CAN CHOOSE:

- Ball nuts offer efficiency at a cost effective price

- Roller nuts provide the highest thrust and life ratings available

HIGH POSITIONAL ACCURACY

SCREW ACCURACY		
Roller Nut	± 0.0004"/ft.	*± 0.0102mm/300mm*
Ball Nut	± 0.002"/ft.	*± 0.051mm/300mm*

INTERNAL BUMPERS

- Bumpers protect the screw and nut assembly from damage at end of stroke

REPLACEABLE BEARING CARTRIDGE

- Doubles as a locating pilot for positioning actuator

ROD WIPER

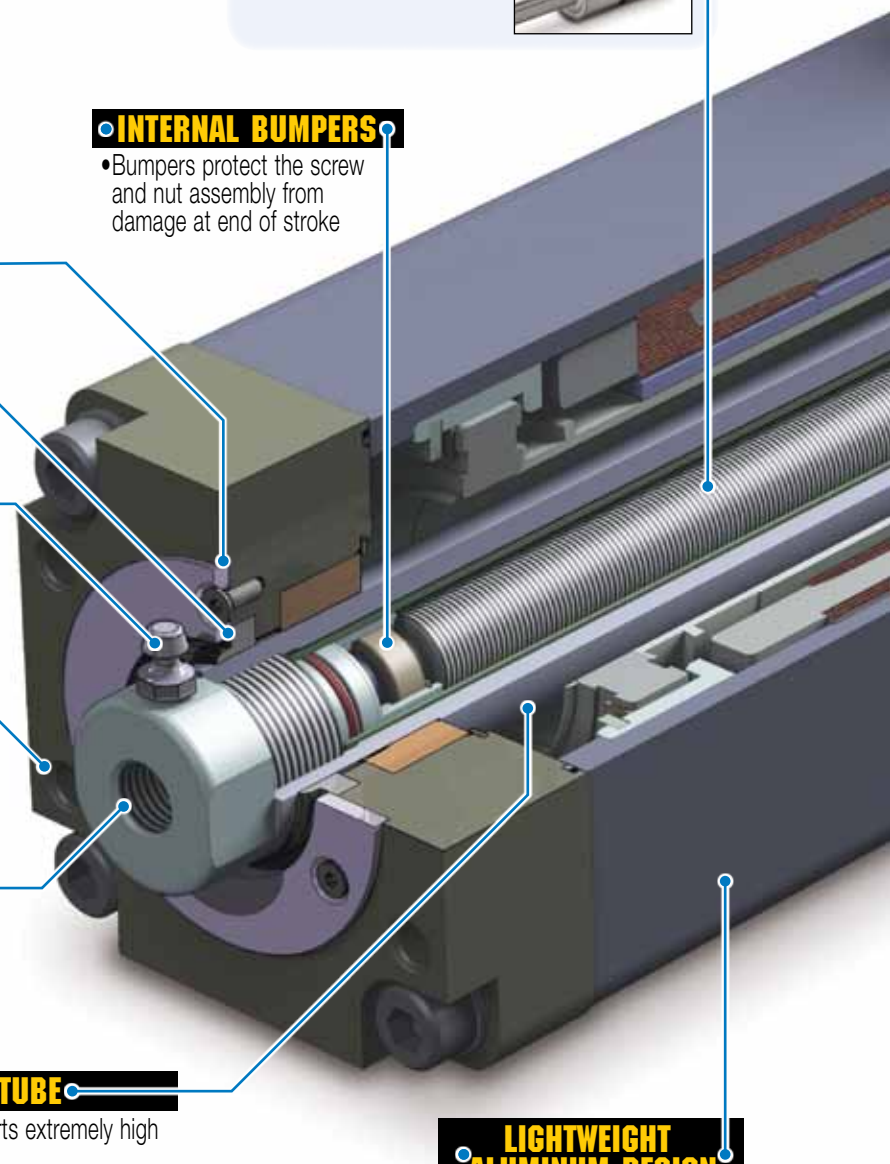
- Prevents contaminants from entering the actuator for extended life

GREASE PORT

- Patent pending screw relubrication system provides extended screw service life
- Convenient lubrication without disassembly

INTEGRAL MOUNTING

- Four metric threaded holes on front face are available for direct mounting or addition of customized options



THREADED ROD END

- Zinc plated alloy steel construction for corrosion resistance
- Provides a common interface to multiple rod end options

THRUST TUBE

- Steel thrust tube supports extremely high force capabilities
- Salt bath nitride treatment provides excellent corrosion resistance, surface hardness and is very resistant to adherence of weld slag, water and other potential contaminants

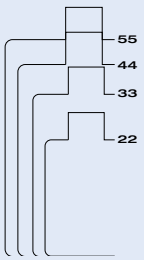
LIGHTWEIGHT ALUMINUM DESIGN

- Black anodized extrusion design is optimized for rigidity and strength

IMA

SPECIFICATIONS: pg. 35

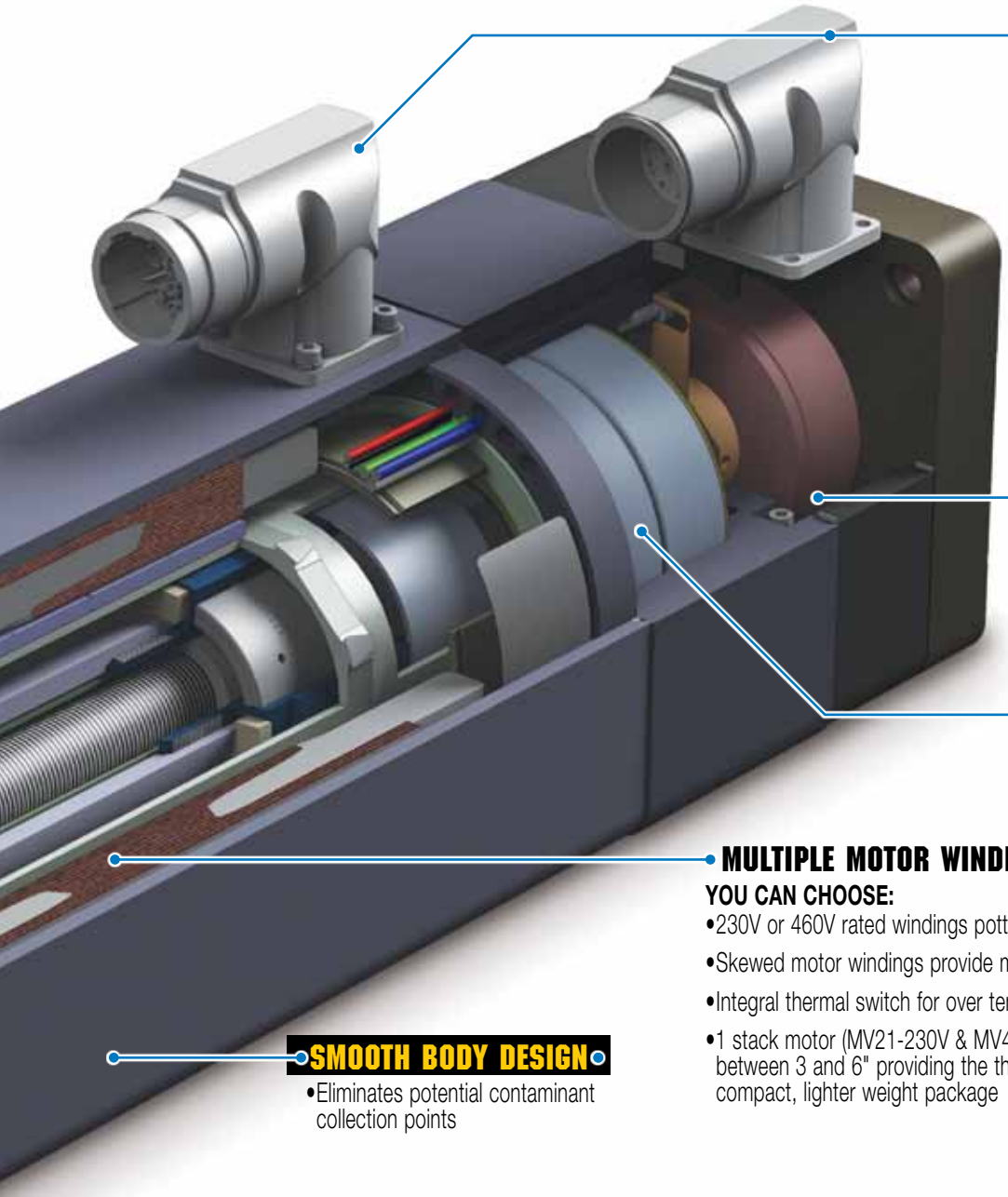
SIZES



MAXIMUM
STROKE: 18"
THRUST: 6,875 lbf
SPEED: 52.5 in/sec

COMPLETE INFORMATION:
www.tolomatic.com

...MAXIMUM DURABILITY



CONNECTORS
YOU CAN CHOOSE FROM:
- Connector choice and wiring emulates popular motor manufacturers for compatibility:
  - Tolomatic Standard
  - Bosch Rexroth MSK Series
  - Emerson FM & NT Series
  - Lenze MCA Series
  - more to come...
- STAGGERED CONNECTORS for convenient installation
- 270° Rotatable & Box mount options available

HIGH RESOLUTION FEEDBACK
YOU CAN CHOOSE:
- Digital encoder
- Multi-turn absolute encoder
- Resolver

HIGH THRUST BEARING
- Provides complete support of screw and protects the feedback device from linear forces

MULTIPLE MOTOR WINDINGS
YOU CAN CHOOSE:
- 230V or 460V rated windings potted directly into actuator housing
- Skewed motor windings provide minimal torque ripple for smooth linear motion
- Integral thermal switch for over temperature protection
- 1 stack motor (MV21-230V & MV41-460V) available for the IMA33, allows strokes between 3 and 6" providing the thrust needed for many applications in a more compact, lighter weight package

SMOOTH BODY DESIGN
- Eliminates potential contaminant collection points

Modifications:
- Contact Tolomatic for white epoxy, stainless steel, food grade or mil-spec versions of the IMA

OPTIONS

MOUNTING
- *Front Face - Standard*
- Side Mounting Holes, 2 sides & bottom *(no photo)*


- Mounting Plates


- Rear Clevis


- Front Flange


- Trunnion, Rear or Front

ROD END
- *Internal Thread - Standard*


- External Threads


- Clevis


- Spherical Eye


- Alignment Coupler

BRAKE

- 24V Spring held / electronically released

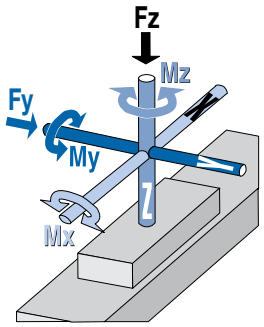
IP67
- For protection against water and dust ingress

CABLES

- Signal Cable (6m)
- Power Cable (6m)

ARO
- Anti-Rotate

MOMENT & LOAD CAPACITY

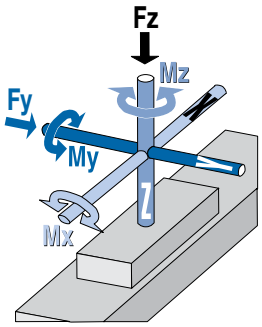


RODLESS SCREW DRIVE ACTUATORS

MODEL	SERIES	BENDING MOMENTS Mx in-lbs	Mx N-m	My in-lbs	My N-m	Mz in-lbs	Mz N-m	LOAD Fy lb	Fy N	Fz lb	Fz N	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
MXE-S	16	22	*2.5*	19	*2.1*	25	*2.8*	—	—	35	*156*	45	*200*	42	*1,067*	31	*787*
	25	60	*6.8*	110	*12.4*	34	*3.8*	—	—	70	*311*	170	*756*	60	*1,524*	134	*3,404*
	32	100	*11.3*	350	*39.5*	140	*15.8*	—	—	150	*667*	170	*756*	60	*1,524*	133	*3,378*
Standard	40	275	*31.1*	600	*67.8*	220	*24.9*	—	—	225	*1,001*	800	*3,559*	60	*1,524*	131	*3,327*
	50	315	*35.6*	1,155	*131*	341	*38.5*	—	—	315	*1,401*	2,700	*12,010*	60	*1,524*	178	*4,521*
	63	585	*66.1*	2,340	*264*	520	*58.8*	—	—	520	*2,313*	4,300	*19,127*	50	*1,270*	125	*3,175*
	16-DC	44	*5.0*	175	*19.8*	175	*19.8*	—	—	70	*311*	45	*200*	42	*1,067*	26	*660*
	25-DC	120	*13.6*	420	*47.5*	420	*47.5*	—	—	140	*623*	170	*756*	60	*1,524*	78	*1,981*
	32-DC	200	*22.6*	1,050	*119*	1,050	*119*	—	—	300	*1,335*	170	*756*	60	*1,524*	126	*3,200*
Auxiliary Carrier	40-DC	550	*62.1*	1,913	*216*	1,913	*216*	—	—	450	*2,002*	800	*3,559*	60	*1,524*	122	*3,099*
	50-DC	630	*71.2*	2,709	*306*	2,709	*306*	—	—	630	*2,802*	2,700	*12,010*	60	*1,524*	169	*4,293*
	63-DC	1,170	*132*	6,760	*764*	6,760	*764*	—	—	1,040	*4,626*	4,300	*19,127*	50	*1,270*	112	*2,845*
MXE-P	16	39	*4.4*	339	*38.3*	339	*38.3*	217	*965*	217	*965*	45	*200*	42	*1,067*	31	*787*
	25	126	*14.2*	502	*56.7*	377	*42.6*	449	*1,997*	449	*1,997*	170	*756*	60	*1,524*	134	*3,404*
	32	226	*25.5*	1,344	*152*	1,344	*152*	569	*2,531*	569	*2,531*	170	*756*	60	*1,524*	133	*3,378*
Standard	40	600	*67.8*	1,913	*216*	1,913	*216*	736	*3,274*	736	*3,274*	800	*3,559*	60	*1,524*	131	*3,327*
	50	811	*92*	3,483	*394*	3,483	*394*	1,014	*4,511*	1,014	*4,511*	2,700	*12,010*	60	*1,524*	178	*4,521*
	63	1,019	*115*	5,339	*603*	5,339	*603*	1,292	*5,747*	1,292	*5,747*	4,300	*19,127*	50	*1,270*	125	*3,175*
	16-DC	79	*8.9*	620	*70.1*	620	*70.1*	434	*1,931*	434	*1,931*	45	*200*	42	*1,067*	26	*660*
	25-DC	252	*28.5*	1,613	*182*	1,613	*182*	898	*3,995*	898	*3,995*	170	*756*	60	*1,524*	78	*1,981*
	32-DC	457	*51.6*	2,202	*249*	2,202	*249*	1,138	*5,062*	1,138	*5,062*	170	*756*	60	*1,524*	126	*3,200*
Auxiliary Carrier	40-DC	1,200	*136*	3,601	*407*	3,601	*407*	1,472	*6,548*	1,472	*6,548*	800	*3,559*	60	*1,524*	122	*3,099*
	50-DC	1,623	*183*	4,966	*561*	4,966	*561*	2,028	*9,021*	2,028	*9,021*	2,700	*12,010*	60	*1,524*	169	*4,293*
	63-DC	2,038	*230*	9,508	*1,074*	9,508	*1,074*	2,583	*11,490*	2,583	*11,490*	4,300	*19,127*	50	*1,270*	112	*2,845*

The values listed are independent maximums for each force or moment load acting upon the actuator carrier.
In applications where more than one force is acting upon the carrier, a loading combination factor must be used to determine if the forces are excessive. The Tolomatic sizing software properly applies the loading factor after entering the application's loads and forces. Contact your local distributor or Tolomatic for more information.

MOMENT & LOAD CAPACITY



RODLESS SCREW DRIVE ACTUATORS

MODEL	SERIES	BENDING MOMENTS Mx in-lbs	Mx N-m	My in-lbs	My N-m	Mz in-lbs	Mz N-m	LOAD Fy lb	Fy N	Fz lb	Fz N	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
B3S / M3S	10	250	*28.2*	269	*30.4*	156	*17.6*	341	*1,517*	591	*2,629*	170	*756*	60	*1,524*	136	*3,454*
 *Standard*	15	859	*97*	1,033	*117*	596	*67.3*	840	*3,737*	1,454	*6,468*	800	*3,559*	60	*1,524*	133	*3,378*
	20	1,662	*188*	1,472	*166*	850	*96*	1,159	*5,156*	2,008	*8,932*	2,700	*12,010*	60	*1,524*	179	*4,547*
 *Auxiliary Carrier*	10-DC	500	*56.5*	2,825	*319*	1,630	*184*	682	*3,034*	1,182	*5,258*	170	*756*	60	*1,524*	131	*3,327*
	15-DC	1,718	*194*	11,734	*1,326*	6,779	*766*	1,680	*7,473*	2,908	*12,936*	800	*3,559*	60	*1,524*	125	*3,175*
	20-DC	3,324	*376*	16,265	*1,838*	9,388	*1,061*	2,318	*10,311*	4,016	*17,864*	2,700	*12,010*	60	*1,524*	171	*4,343*
B3SD / M3SD	D10	657	*74.2*	312	*35.3*	538	*60.8*	1,182	*5,258*	682	*3,034*	170	*756*	60	*1,524*	136	*3,454*
 *Standard*	D15	2,468	*279*	1,192	*135*	2,066	*233*	2,908	*12,936*	1,680	*7,473*	800	*3,559*	60	*1,524*	133	*3,378*
	D20	4,527	*512*	1,700	*192*	2,944	*333*	4,016	*17,864*	2,318	*10,311*	2,700	*12,010*	60	*1,524*	179	*4,547*
 *Auxiliary Carrier*	D10-DC	1,314	*149*	3,328	*376*	5,768	*652*	2,364	*10,516*	1,364	*6,067*	170	*756*	60	*1,524*	131	*3,327*
	D15-DC	4,936	*558*	13,558	*1,532*	23,468	*2,652*	5,816	*25,871*	3,360	*14,946*	800	*3,559*	60	*1,524*	125	*3,175*
	D20-DC	9,054	*1,023*	18,776	*2,122*	32,530	*3,676*	8,032	*35,728*	4,636	*20,622*	2,700	*12,010*	60	*1,524*	171	*4,343*
TKS	10	85	*9.6*	234	*26.4*	234	*26.4*	100	*445*	100	*445*	230	*1,023*	30	*762*	96	*2,438*
 *Standard*	25	721	*82*	1,014	*115*	915	*103*	250	*1,112*	250	*1,112*	1,590	*7,073*	30	*762*	96	*2,438*
	50	971	*110*	1,442	*163*	1,301	*147*	500	*2,224*	500	*2,224*	2,830	*12,589*	60	*1,524*	96	*2,438*
	75	1,151	*130*	1,477	*167*	1,332	*151*	750	*3,336*	750	*3,336*	3,260	*14,501*	40	*1,016*	96	*2,438*
	10-DC	170	*19.2*	563	*63.6*	563	*63.6*	200	*890*	200	*890*	230	*1,023*	30	*762*	88	*2,235*
 *Auxiliary Carrier*	25-DC	1,442	*163*	1,733	*196*	1,733	*196*	500	*2,224*	500	*2,224*	1,590	*7,073*	30	*762*	88	*2,235*
	50-DC	1,942	*219*	3,810	*431*	3,810	*431*	1,000	*4,448*	1,000	*4,448*	2,830	*12,589*	60	*1,524*	88	*2,235*
	75-DC	2,302	*260*	3,875	*438*	3,875	*438*	1,500	*6,672*	1,500	*6,672*	3,260	*14,501*	40	*1,016*	88	*2,235*

The values listed are independent maximums for each force or moment load acting upon the actuator carrier.
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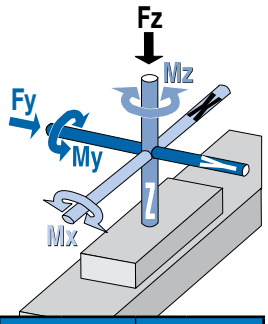
MOMENT & LOAD CAPACITY



RODLESS BELT DRIVE ACTUATORS

MODEL	SERIES	BENDING MOMENTS Mx in-lbs	Mx N-m	My in-lbs	My N-m	Mz in-lbs	Mz N-m	LOAD Fy lb	Fy N	Fz lb	Fz N	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
MXB-U	16	—	—	—	—	—	—	—	—	—	—	38	169	200	5,080	230	5,842
	25	—	—	—	—	—	—	—	—	—	—	151	672	200	5,080	200	5,080
	32	—	—	—	—	—	—	—	—	—	—	209	930	200	5,080	200	5,080
	40	—	—	—	—	—	—	—	—	—	—	250	1,112	200	5,080	200	5,080
	50	—	—	—	—	—	—	—	—	—	—	325	1,446	200	5,080	200	5,080
	63	—	—	—	—	—	—	—	—	—	—	418	1,859	200	5,080	100	2,540
MXB-P	16	39	4.4	339	38.3	339	38.3	217	965	217	965	38	169	150	3,810	230	5,842
	25	126	14.2	502	56.7	377	42.6	449	1,997	449	1,997	151	672	150	3,810	200	5,080
 *Standard*	32	226	25.5	1,344	152	1,344	152	569	2,531	569	2,531	209	930	150	3,810	200	5,080
	40	600	67.8	1,913	216	1,913	216	736	3,274	736	3,274	250	1,112	150	3,810	200	5,080
	50	811	92	3,483	394	3,483	394	1,014	4,511	1,014	4,511	325	1,446	150	3,810	200	5,080
	63	1,019	115	5,339	603	5,339	603	1,292	5,747	1,292	5,747	418	1,859	150	3,810	100	2,540
	16-DC	79	8.9	620	70.1	620	70.1	434	1,931	434	1,931	38	169	150	3,810	225	5,715
	25-DC	252	28.5	1,613	182	1,613	182	898	3,995	898	3,995	151	672	150	3,810	194	4,927
 *Auxiliary Carrier*	32-DC	457	51.6	2,202	249	2,202	249	1,138	5,062	1,138	5,062	209	930	150	3,810	193	4,902
	40-DC	1,200	136	3,601	407	3,601	407	1,472	6,548	1,472	6,548	250	1,112	150	3,810	191	4,851
	50-DC	1,623	183	4,966	561	4,966	561	2,028	9,021	2,028	9,021	325	1,446	150	3,810	191	4,851
	63-DC	2,038	230	9,508	1,074	9,508	1,074	2,583	11,490	2,583	11,490	418	1,859	150	3,810	87	2,209
B3W	10	250	28.2	269	30.4	156	17.6	341	1,517	591	2,629	150	667	200	5,080	292	7,417
 *Standard*	15	859	97	1,033	117	596	67.3	840	3,737	1,454	6,468	250	1,112	200	5,080	204	5,182
	20	1,662	188	1,472	166	850	96	1,159	5,156	2,008	8,932	325	1,446	200	5,080	156	3,962
	10-DC	500	56.5	2,825	319	1,630	184	682	3,034	1,182	5,258	150	667	200	5,080	287	7,290
 *Auxiliary Carrier*	15-DC	1,718	194	11,734	1,326	6,779	766	1,680	7,473	2,908	12,936	250	1,112	200	5,080	196	4,978
	20-DC	3,324	376	16,265	1,838	9,388	1,061	2,318	10,311	4,016	17,864	325	1,446	200	5,080	148	3,759
B3WD	D10	657	74.2	312	35.3	538	60.8	1,182	5,258	682	3,034	150	667	200	5,080	292	7,417
 *Standard*	D15	2,468	279	1,192	135	2,066	233	2,908	12,936	1,680	7,473	250	1,112	200	5,080	204	5,182
	D20	4,527	512	1,700	192	2,944	333	4,016	17,864	2,318	10,311	325	1,446	200	5,080	156	3,962
	D10-DC	1,314	149	3,328	376	5,768	652	2,364	10,516	1,364	6,067	150	667	200	5,080	287	7,290
 *Auxiliary Carrier*	D15-DC	4,936	558	13,558	1,532	23,468	2,652	5,816	25,871	3,360	14,946	250	1,112	200	5,080	196	4,978
	D20-DC	9,054	1,023	18,776	2,122	32,530	3,676	8,032	35,728	4,636	20,622	325	1,446	200	5,080	148	3,759

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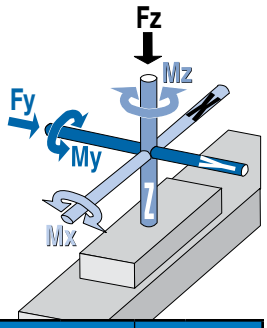
MOMENT & LOAD CAPACITY



RODLESS BELT DRIVE ACTUATORS

MODEL	SERIES	BENDING MOMENTS Mx in-lbs	Mx N-m	My in-lbs	My N-m	Mz in-lbs	Mz N-m	LOAD Fy lb	Fy N	Fz lb	Fz N	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
TKB	10	85	*9.6*	234	*26.4*	234	*26.4*	100	*445*	100	*445*	75	*334*	100	*2,540*	96	*2,438*
 *Standard*	15	721	*82*	1,014	*115*	915	*103*	250	*1,112*	250	*1,112*	120	*534*	100	*2,540*	96	*2,438*
	50	971	*110*	1,442	*163*	1,301	*147*	500	*2,224*	500	*2,224*	195	*867*	100	*2,540*	96	*2,438*
	75	1,151	*130*	1,477	*167*	1,332	*151*	750	*3,336*	750	*3,336*	245	*1,090*	100	*2,540*	96	*2,438*
	10-DC	170	*19.2*	563	*63.6*	563	*63.6*	200	*890*	200	*890*	75	*334*	100	*2,540*	88	*2,235*
 *Auxiliary Carrier*	25-DC	1,442	*163*	1,733	*196*	1,733	*196*	500	*2,224*	500	*2,224*	120	*534*	100	*2,540*	88	*2,235*
	50-DC	1,942	*219*	3,810	*431*	3,810	*431*	1,000	*4,448*	1,000	*4,448*	195	*867*	100	*2,540*	88	*2,235*
	75-DC	2,302	*260*	3,875	*438*	3,875	*438*	1,500	*6,672*	1,500	*6,672*	245	*1,090*	100	*2,540*	88	*2,235*

ROD STYLE SCREW DRIVE ACTUATORS

MODEL	SERIES	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
ERD	06	20	*89*	40	*1,016*	8	*203*
	10	100	*445*	40	*1,016*	10	*254*
	15	200	*890*	40	*1,016*	24	*610*
	20	500	*2,224*	20	*508*	24	*610*
	25	3,300	*14,679*	40	*1,016*	36	*914*
	30	4,500	*20,017*	40	*1,016*	36	*914*
ICR	20	720	*3,203*	24	*609*	24	*609*
							
RSA	12	130	*578*	123	*3,124*	18	*457*
	16	471	*2,095*	123	*3,124*	18	*457*
	24	1,700	*7,562*	29	*737*	24	*610*
	32	3,300	*14,679*	50	*1,270*	36	*914*
	50	4,109	*18,278*	50	*1,270*	48	*1,219*
	64	7,350	*32,695*	58	*1,473*	60	*1,524*

MODEL	SERIES	MAX. THRUST lbf	MAX. THRUST N	MAX. SPEED in/sec	MAX. SPEED mm/sec	MAX. STROKE in	MAX. STROKE mm
GSA	12	130	*578*	123	*3,124*	18	*457*
	16	471	*2,095*	123	*3,124*	24	*609*
	24	850	*3,781*	29	*737*	30	*762*
	32	2,670	*11,877*	50	*1,270*	36	*914*
IMA	22	325	*1,446*	28	*711*	18	*457*
	33	1,700	*7,562*	48	*1,219*	18	*457*
	44	3,300	*14,679*	52.5	*1,334*	18	*457*
	55	6,875	*30,594*	31.4	*787*	18	*457*

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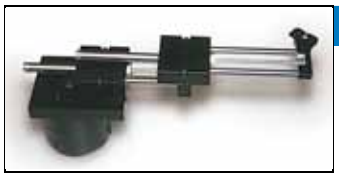

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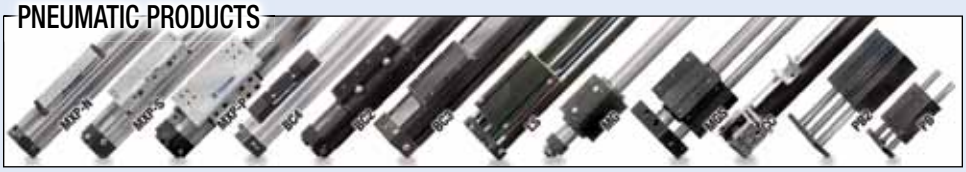

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