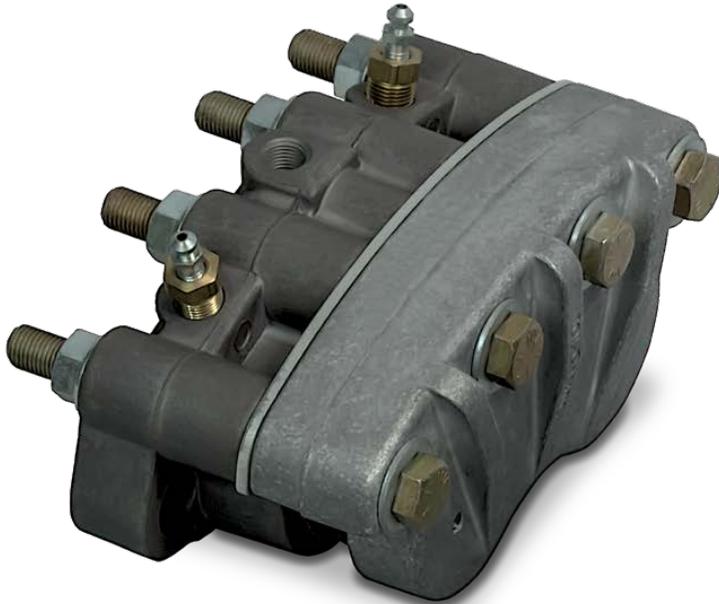


# POWER TRANSMISSION PRODUCTS

**ENDURANCE TECHNOLOGY**<sup>SM</sup>  
A Tolomatic Design Principle



GEARBOXES • ROTATE SHAFT AT 90° ANGLE

SLIDE-RITE® GEARBOX



COMPACT 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:

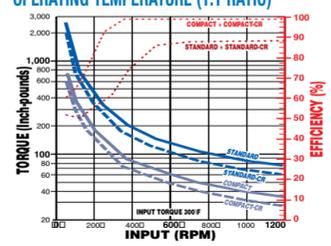
- Corrosion resistant (CR) option
  - Electroless nickel-plated geared sleeves, keys and retaining rings
  - Stainless-steel bearings
  - Clear anodized aluminum case

- 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

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

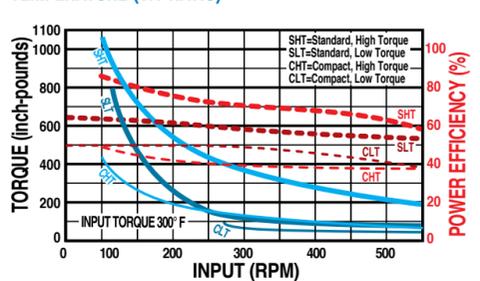
OPTIONS:

- 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)\*



PNEUMATIC



(CUTAWAY OF DOUBLE ACTING CALIPER PICTURED)

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)

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

CALIPER DISC BRAKES • STOP ROTATING SHAFT

MECHANICAL



(ME20)

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\*

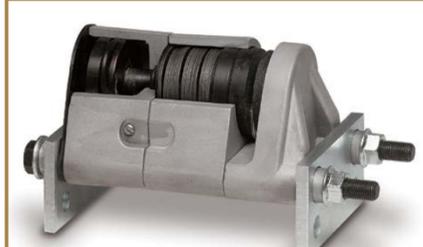
DYNAMIC TORQUE (MAX. in.-lbs.)

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

SPRING APPLIED/HYDRAULIC RELEASE



(CUTAWAY OF FS20 CALIPER PICTURED)

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



(0802-0020)

FEATURES:

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

MODELS

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

INTENSIFIER



(1770-0000)

INPUT:

- Pneumatic pressure max.: 100 PSI
- Piston seal: U-cup design
- Cylinder material: Hard coated aluminum
- Input to output ratio: 1:10

OUTPUT:

- Hydraulic pressure max.: 1,000 PSI
- Hydraulic fluid displacement: 0.44 cu. in.
- Cylinder seal: O-ring, Buna-N, opt. EPR
- Cylinder material: Aluminum
- 1/8 NPT Port: Standard

COMPONENT USED IN ELECTRIC ACTUATORS

PLANETARY ROLLER SCREWS



FEATURES:

- Verified and tested extensively in Tolomatic's research & development lab
- Proven long, reliable life in thousands of demanding applications world-wide through use in Tolomatic's ERD, IMA, RSA, RSX and ServoWeld actuator platforms
- Configurable stroke lengths
- Industry best lead times

OPTIONS:

- Machine screw ends to OEM specs

SPECIFICATIONS

CONFIG.	SCREW SIZE	LEAD	SCREW DIA.	MAX. STROKE	DLR (C)	SLR (CO)
15.04	15	4	15.29	699.0	41.1	38.7
15.05	15	5	15.29	699.0	53.6	34.9
15.10	15	10	15.55	699.0	47.2	47.3
20.04	20	4	19.80	1036.2	67.2	83.9
20.05	20	5	19.80	1036.2	73.3	70.9
20.10	20	10	20.07	1036.2	76.4	74.0
30.05	30	5	30.37	980.2	65.5	104.6
30.10	30	10	30.71	980.2	116.1	105.0
36.05	36	5	36.32	954.5	96.6	175.3
36.10	36	10	36.75	954.5	160.8	160.1
39.10	39	10	39.70	911.5	182.7	214.3
48.12	48	12	48.56	830.7	269.3	485.6
63.10	63	10	63.70	737.0	442.8	818.7

CONFIG.	SCREW SIZE	LEAD	SCREW DIA.	MAX. STROKE	DLR (C)	SLR (CO)
15.04	15	0.157	0.602	27.52	9.240	8.700
15.05	15	0.197	0.602	27.52	12.050	7.846
15.10	15	0.394	0.612	27.52	10.611	10.633
20.04	20	0.157	0.780	40.80	15.107	18.861
20.05	20	0.197	0.780	40.80	16.478	15.939
20.10	20	0.394	0.790	40.80	17.175	16.636
30.05	30	0.197	1.196	38.59	14.725	23.515
30.10	30	0.394	1.209	38.59	26.100	23.605
36.05	36	0.197	1.430	37.58	21.716	39.409
36.10	36	0.394	1.447	37.58	36.149	35.992
39.10	39	0.394	1.563	35.89	41.072	48.176
48.12	48	0.472	1.912	32.70	60.541	109.167
63.10	63	0.394	2.508	29.02	99.545	184.051

Lead Accuracy: 0.0004 in/ft Backlash: 0.0012 in

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

# PLANETARY ROLLER SCREWS

Roller screws are designed to provide high force and efficient operation in a compact package. This unique design offers higher forces and longer life in a smaller package compared to ball screws, increasing a machine designer's ability to create compact machine concepts. Tolomatic roller screws are manufactured using state-of-the-art equipment to ensure strict tolerances and the highest quality standards confirming that each roller screw provides top-tier performance.

## Tolomatic's Planetary Roller Screws:

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

### ROLLER NUT

Increased contact points for high load carrying capacity

### MACHINED ENDS

- Screw ends and bearing journals custom machined to fit most application requirements
- Easy integration into machine designs and concepts

### HARDENED STEEL

- Screw, nut and rollers are manufactured with specially hardened steel for maximum durability and long life
- Designed and tested for demanding applications
- High load capacities

### ROLLER SCREW

State-of-the-art manufacturing coupled with extensive statistical testing methods ensures high performance within tight specifications

### PLANETARY ROLLERS

- Precision ground on state-of-the-art machines to high tolerances for smooth and efficient operation
- High dynamic load ratings for long life

### PLANETARY GEARS

High tech quality control & measurement lab assures superior performance for every component



\*Lead times are dependent on quantity and machined end specifications

# The Tolomatic Difference Expect More From the Industry Leader:



## INNOVATIVE PRODUCTS

Unique linear actuator solutions with Endurance Technology<sup>SM</sup> to solve your challenging application requirements.



## FAST DELIVERY

The fastest delivery of catalog products... Built-to-order with configurable stroke lengths and flexible mounting options.



## ACTUATOR SIZING

Online sizing that is easy to use, accurate and always up-to-date. Find a Tolomatic electric actuator to meet your requirements.



## YOUR MOTOR HERE

Match your motor with compatible mounting plates that ship with any Tolomatic electric actuator.



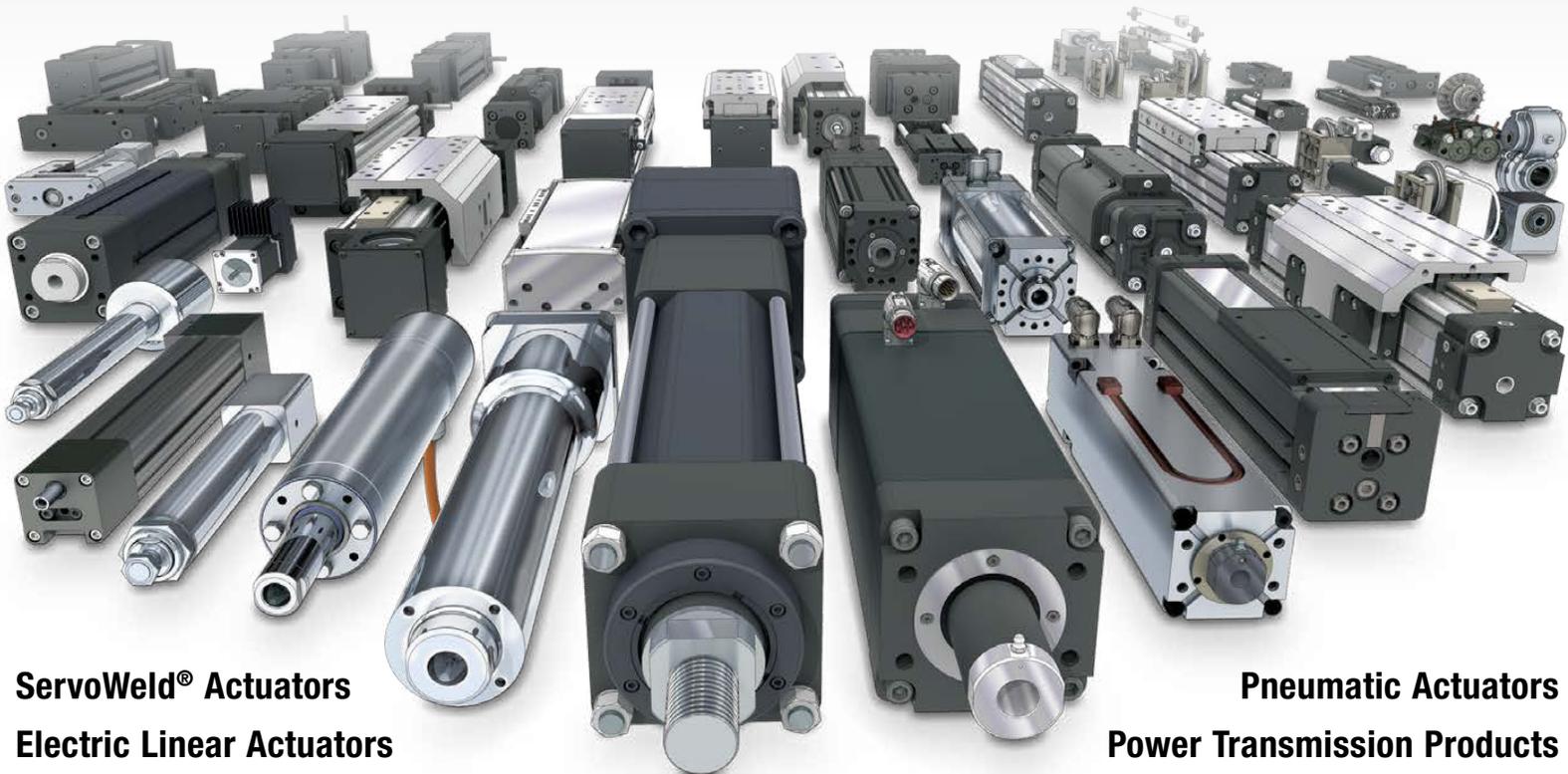
## LIBRARY

Easy to access CAD files available in the most popular formats to place directly into your assembly.



## TECHNICAL SUPPORT

Extensive motion control knowledge: Expect prompt, courteous replies to any application and product questions from Tolomatic's industry experts.



**ServoWeld<sup>®</sup> Actuators**  
**Electric Linear Actuators**

**Pneumatic Actuators**  
**Power Transmission Products**

# Tolomatic<sup>TM</sup>

EXCELLENCE IN MOTION

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

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