

THOMSON Product Brochure

V2021JAN



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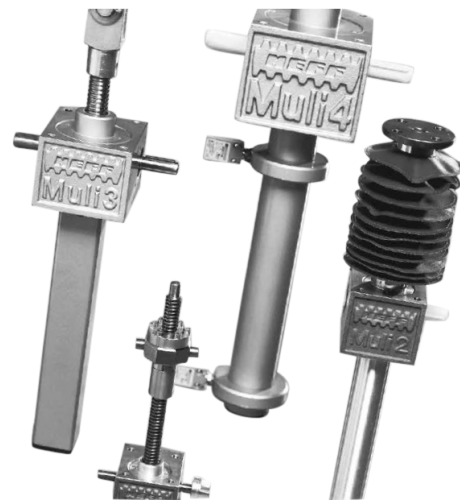
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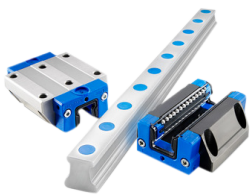
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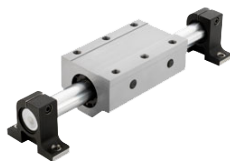
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Thomson is a 75 year old company in anti-friction linear technology .It is one of the finest brands in the world of manufacturing in high precision ball screws. In 2018, Thomson industries was acquired by Altra Industrial Motion. Thomson has globally active manufacturing factories in various countries such as Germany, USA, Sweden.

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4.1 Thomson Ball Screw



4.1.1 BALL SCREW KGF-D(FK)



Industries it caters to

- Machine tools
- Aircraft construction
- Wood working
- Handling equipment
- Medical equipment
- Press machine industry
- Printing & paper industry

Selection parameters

Parameters	Min	Max
Nominal diameter	16 mm	80 mm
Lead	5 mm	10 mm
Dynamic load	9.5 KN	121.9 KN
Static load	10.9 KN	374.9 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running

4.1 Thomson Ball Screw (continued)

4.1.2 BALL SCREW KGF-D(FH)



Selection parameters

Parameters	Min	Max
Nominal diameter	20 mm	63 mm
Lead	10 mm	40 mm
Dynamic load	10.8 KN	103.1 KN
Static load	17.5 KN	270.8 KN

Industries it caters to

Machine tools
Aircraft construction
Wood working
Handling equipment
Medical equipment
Press machine industry
Printing & paper industry

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running

4.1.3 BALL SCREW KGF-L(FL)



Selection parameters

Parameters	Min	Max
Nominal diameter	16 mm	63 mm
Lead	5 mm	10 mm
Dynamic load	6.7 KN	93.8 KN
Static load	7.2 KN	229.7 KN

Industries it caters to

Machine tools
Aircraft construction
Wood working
Handling equipment
Medical equipment
Press machine industry
Printing & paper industry

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running

4.1 Thomson Ball Screw (continued)

4.1.4 BALL SCREW KGM-G(ZG)



Industries it caters to

- Machine tools
- Aircraft construction
- Wood working
- Handling equipment
- Medical equipment
- Press machine industry
- Printing & paper industry

Selection parameters

Parameters	Min	Max
Nominal diameter	12 mm	80 mm
Lead	4 mm	20 mm
Dynamic load	3.8 KN	121.9 KN
Static load	4.3 KN	375 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running

4.1.5 BALL SCREW KGF-D



Industries it caters to

- Machine tools
- Aircraft construction
- Wood working
- Handling equipment
- Medical equipment
- Press machine industry
- Printing & paper industry

Selection parameters

Parameters	Min	Max
Nominal diameter	12 mm	63 mm
Lead	5 mm	50 mm
Dynamic load	4.9 KN	78.4 KN
Static load	8 KN	171.3 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running. The ball nut is available with "cut flange" design series KGF D as per DIN standard

4.1 Thomson Ball Screw (continued)

4.1.6 BALL SCREW KGF-N



Industries it caters to

Machine tools
Aircraft construction
Wood working
Handling equipment
Medical equipment
Press machine industry
Printing & paper industry

Product application

Flow make MAC300/500
CNC Waterjet cutting m/c

Selection parameters

Parameters	Min	Max
Nominal diameter	16 mm	80 mm
Lead	5 mm	50 mm
Dynamic load	9.3 KN	86.25 KN
Static load	13.1 KN	262.41 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running. The ball nut is available with "round flange" design series KGF-N

4.1.7 BALL SCREW KGM-D



Industries it caters to

Machine tools
Aircraft construction
Wood working
Handling equipment
Medical equipment
Press machine industry
Printing & paper industry

Selection parameters

Parameters	Min	Max
Nominal diameter	12 mm	63 mm
Lead	5 mm	50 mm
Dynamic load	4.9 KN	78.4 KN
Static load	8 KN	171.3 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running. The ball nut is available with "round nut" design series KGM-D without flange

4.1 Thomson Ball Screw (continued)

4.1.8 BALL SCREW KGM-N



Industries it caters to

- Machine tools
- Aircraft construction
- Wood working
- Handling equipment
- Medical equipment
- Press machine industry
- Printing & paper industry

Selection parameters

Parameters	Min	Max
Nominal diameter	12 mm	80 mm
Lead	4 mm	50 mm
Dynamic load	4.9 KN	86.3 KN
Static load	6.6 KN	262.4 KN

Thomson cold rolled ball screws are manufactured by cold rolling process. There is no chip removal here. Due to typical rolling process there is compressive stress at surface resulting in longer life for ball screw with good quality and stable running. The ball nut is available with "round nut" design series KGM-N without flange

4.1.9 PRECISION ROLLED INCH BALL SCREWS



Industries it caters to

- Machine tools
- Aircraft construction
- Wood working
- Handling equipment
- Medical equipment
- Press machine industry
- Printing & paper industry

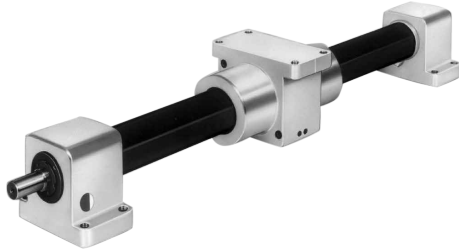
Selection parameters

Parameters	Min	Max
Nominal diameter	0.375 inch	4 inch
Lead	0.125 inch	2 inch
Max. Axial Backlash (Non-preloaded)	0.002 inch	0.015 inch

Thomson precision rolled ball screws are in Inch series, with pre load and with backlash option. It is an economical design with tube return design. The ball nut comes with external thread on body for flange connection.

4.1 Thomson Ball Screw (continued)

4.1.10 KOKON RECIRCULATING BALL SCREW



Selection parameters

Parameters	Min	Max
Nominal diameter	40 mm	40 mm
Lead	5 mm	10 mm
Acceleration	-	20 m/s ²
Speed	-	3000 rpm
Axial load capacity	-	46000 N
	250	500 mm/sec

Industries it caters to

Harsh and dirty environment application

Applicatons with long travel

KOKON ball screw is a unique design from Thomson Germany for harsh environments and for long travel length. It is a "ready to fit" product with end supports, cover. The ball nut is a preloaed nut.

4.1.11 HIGH LOAD BALL SCREW



Product application

Large fabrication machines

(mills, water jets, plasma cutters)

Injection Molding, Pressing and Metal Fabrication Machines

Metal pressing and forming

(e.g. rivet presses, servo presses, tube bending, metal sheet bending, test rigs, straightening machines)

Machine tools

Lifting devices

Large valves

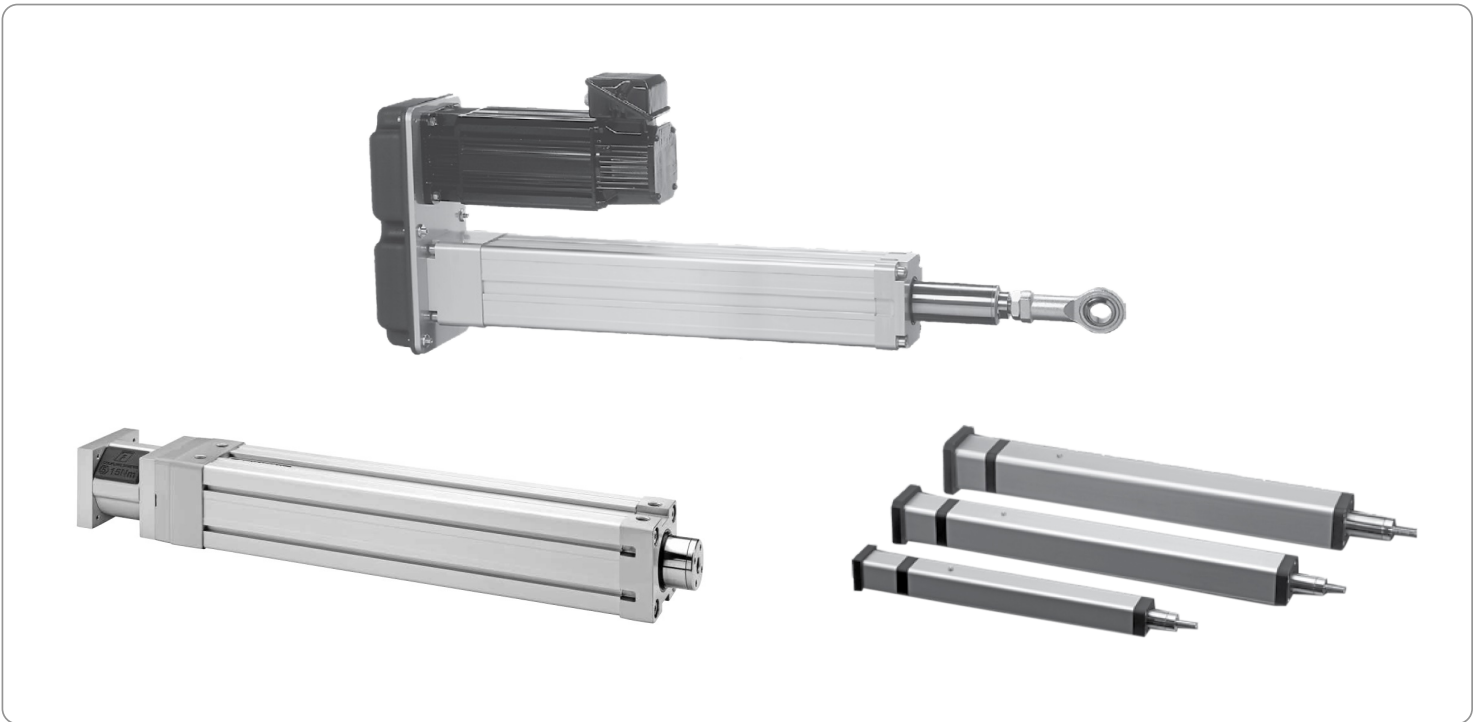
High-load actuators, electromechanical conversion

Selection parameters

Parameters	Min	Max
Nominal diameter	40 mm	160 mm
Lead	12 mm	30 mm
Dynamic rated load	220 KN	1440 KN
Static rated load	434 KN	5870.3 KN

Thomson high load ball screws offer dynamic load capacity upto 144 tons = 1440 Kn, with preloaed nut option, high stiffness. It can replace roller screw at less than 50% price of the roller screw and same life! Dia range is from 40 mm to 160 mm with various lead options, made in Germany

4.2 Thomson Precision Linear Actuator (PLA)



4.2.1 T SERIES



Industries it caters to

- Industrial robots
- Materials handling
- Semiconductor manufacturing
- Packaging/packing industry

Selection parameters

Parameters	Min	Max
load, Fx	Minimum value	60000 N
load, Fy	of the	800 mm
load, Fz	parameter	800 N
load torque, My	depend son	300 Nm
load torque, Mz	the application	300 Nm
stroke		2000 mm
speed		2.5 m/s

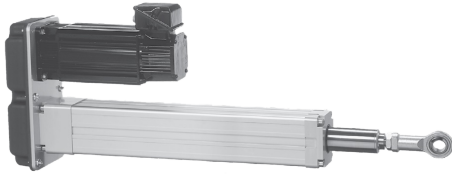
Product application

- Engine Test Bed Throttle Application
- Ventilation equipment
- Vehicle applications
- Print shop equipment
- Paper mills
- Laser cutting machines
- Electric discharge machines

Thomson precision actuators have IP 65 protection. The servo cylinders can be connected to any servo motor/ AC geared motor/ stepper motor / DC motor as per application. Thomson supplies only the linear actuator without motor. Suitable bell housing is provided for the connection of the motor. Max speed of 2.5 m / sec is possible here. Maximum force possible is 60 Kn ie 6 Ton. Use it for 100% duty cycle = 24 x7 working

4.2 Thomson Precision Linear Actuator (PLA) (continued)

4.2.2 ECT SERIES



Selection parameters

Parameters	Min	Max
load, Fx	Minimum value	38000 N
load, Fy	of the	800 mm
load, Fz	parameter	800 N
load torque, My	depend son	300 Nm
load torque, Mz	the application	300 Nm
stroke		2000 mm
speed		2.5 m/s

The Thomson ECT series precision actuator comes with built in servo motor or AC motor. The control has to be purchased separately . Parallel mounting or inline mounting with suitable motor/ gearbox is available

Industries it caters to

Industrial robots
Materials handling
Semiconductor manufacturing
Packaging/packing industry

Product application

Engine Test Bed Throttle Application
Ventilation equipment
Vehicle applications
Print shop equipment
Paper mills
Laser cutting machines
Electric discharge machines

4.2.3 PC SERIES



Selection parameters

Parameters	Min	Max
Max load, Fx	1250 N	6000 N
stroke length range	70-600 mm	120-1200 mm
Max speed	1 m/s	1.66 m/s
profile size	34 x 34 mm	55 x 55 mm

Thomson precision actuators PC series have IP 65 protection. The servo cylinders can be connected to any servo motor/ AC motor/ stepper motor / DC motor as per application. Thomson supplies only the linear actuator without motor. Suitable bell housing is provided for the connection of the motor. max speed of 1.6 m / sec is possible here. Use it for 100% duty cycle = 24 x7 working

Industries it caters to

Marking and Printing
Secondary Packaging
Conveying, Sorting and Pick and Place
Automation industry

Product application

Form, Fill and Seal Equipment
Sorting arms and pushers in Grading
Molding, can and box manufacturing equipment
Testing machines (inspection)

4.3 Thomson Linear Actuator (ILA)



4.3.1 ELECTRAK® HD



Industries it caters to

- Materials handling equipment
- Packaging/packing industry
- Medical equipment
- Pneumatic equipment
- Office equipment
- Assembling machine industry

Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	16000 N
Static load	-	18000 N
speed @ no load/max. load	-	71/58 mm/s
ordering stroke length	-	1000 mm
Operating temperature limits	-40 °C	85 °C

Product application

- MINUTEMAN (USA) Floor cleaning
- Machine Model – SCV -28/32
- Acid Pickling point

HD series is the new generation DC actuator from Thomson. The electric cylinder has feedback option, CANBUS J1939 connection, IP 69 K protection. The max stroke is 1000 mm with 10 Kn force and 16 Kn force with 500 mm stroke. It has overcurrent limit with a PCB inside. Duty cycle is 25%. We can combine say 4 actuators for SYN motion e.g. vertical lift

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.2 ELECTRAK® GX DC



Selection parameters

Parameters	Min	Max
Available input voltages	12V dc	24V dc
Dynamic load	-	9000 N
Static load	-	18000 N
speed @ no load/max. load	-	61/37 mm/s
ordering stroke length	-	24 inch
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Thomson offers proven GX DC actuator , workhorse produced since 1971 ! There are lakhs of installations worldwide . IP 65 is standard . There is manual override option, POT feedback option . 12 v dc/ 24 v dc option as well. The linear actuator is made in USA and Sweden

4.3.3 ELECTRAK® GX AC



Selection parameters

Parameters	Min	Max
Available input voltages	1 × 115 V ac	3 × 400V ac
Dynamic load	-	9000 N
Static load	-	18000 N
speed @ no load/max. load	-	53/43 mm/s
ordering stroke length	-	24 inch
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Thomson makes AC actuator in USA and Sweden. It is 1 ph x 230 V ac/ 1 ph x 115 V AV/ 3 ph x 400 V AC. It has Stainless steel extension tube, Self-locking acme screw drive system, Overload clutch built in for mid and end of stroke protection. The motor has thermal switch. Electric actuator is maintenance free.

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.4 ELECTRAK® LA14



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	6800 N
Static load	-	18000 N
speed @ no load/max. load	-	61/37 mm/s
ordering stroke length	-	600 mm
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Thomson offers proven LA14 DC actuator. There are lakhs of installations worldwide. IP 65 is standard. There is manual override option, POT feedback option. 12 v dc/ 24 v dc option as well. The linear actuator is made in Sweden. It has Stainless steel extension tube, Self-locking acme screw drive system, Overload clutch built in for mid and end of stroke protection. The motor has thermal switch.

4.3.5 ELECTRAK® LA24



Selection parameters

Parameters	Min	Max
Available input voltages	1 × 115 Vac	3 × 400 Vac
Dynamic load	-	6800 N
Static load	-	18000 N
speed @ no load/max. load	-	53/43 mm/s
ordering stroke length	-	600 mm
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Thomson makes AC actuator LA 24 series in Sweden. It is 1 ph x 230 V ac/ 1 ph x 115 V AV/ 3 ph x 400 V AC. It has Stainless steel extension tube, Self-locking acme screw drive system, Overload clutch built in for mid and end of stroke protection. The motor has thermal switch. Electric actuator is maintenance free.

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.6 ELECTRAK® PPA



Industries it caters to

Materials handling equipment
Packaging/
Packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	36Vdc
Dynamic load	-	6670 N
Static load	-	13350 N
speed @ no load/max. load	-	32/28 mm/s
ordering stroke length	-	36 inch
Operating temperature limits	-25 °C	65 °C

Thomson makes AC and DC actuator PPA series in USA . It is 1 ph x 115 V AV/ 1ph x 230 V AC . It has Stainless steel extension tube, Self-locking acme screw drive system, Overload clutch built in for mid and end of stroke protection. The motor has thermal switch. Electric actuator is maintenance free.

4.3.7 MAX JAC



Industries it caters to

Materials handling equipment
Packaging/
Packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	800 N
Static load	-	2000 N
speed @ no load/max. load	-	60/30 mm/s
ordering stroke length	-	300 mm
Operating temperature limits	-40 °C	85 °C

It is DC actuator with IP 69 K protection, 12 v dc/ 24 v dc . It is 200 hours salt spray tested. Acme screw and ball screw option is there. It is a maintenance free electric cylinder suitable for 25% duty cycle.

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.8 ELECTRAK® 050



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	510 N
Static load	-	1020 N
speed @ no load/max. load	-	48/37 mm/s
ordering stroke length	-	200 mm
Operating temperature limits	-30 °C	80 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is DC actuator with IP 65 protection, 12 v dc/ 24 v dc . Acme screw drive is there . It is a maintenance free electric cylinder , suitable for 25% duty cycle. Max stroke is 8 inches= 200 mm

4.3.9 ELECTRAK® 1 S



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	340 N
Static load	-	1300 N
speed @ no load/max. load	-	78/64 mm/s
ordering stroke length	-	8 inch
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipmen
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is DC actuator with IP 65 protection, 12 v dc/ 24 v dc . Acme screw drive is there . It is a maintenance free electric cylinder , suitable for 25% duty cycle. Max stroke is 8 inches= 200 mm

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.10 ELECTRAK® 1 SP



Selection parameters

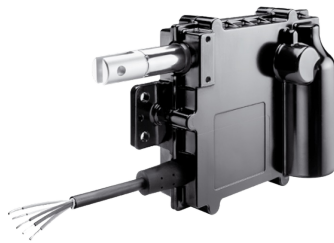
Parameters	Min	Max
Available input voltages	12 Vdc	24 Vdc
Dynamic load	-	340 N
Static load	-	1300 N
speed @ no load/max. load	-	78/64 mm/s
ordering stroke length	-	8 inch
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is DC actuator with IP 65 protection, 12 v dc/ 24 v dc . Acme screw drive is there . It is a maintenance free electric cylinder , suitable for 25% duty cycle. Max stroke is 8 inches= 200 mm. It has 10 K ohm POT feedback.

4.3.11 ELECTRAK® THROTTLE



Selection parameters

Parameters	Min	Max
Available input voltages	12 Vdc	24 Vdc
Dynamic load	-	130 N
Static load	-	260 N
Speed @ no load/max. load	-	98/83 mm/s
Ordering stroke length	-	2 inch
Operating temperature limits	-40 °C	125 °C

Industries it caters to

Materials handling equipmen
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a proven Throttle actuator, used in MOH / earthmoving applications. IP 69 K protection is there , CANBUS J1939 option is there. The stroke is 2 inches and force 13 kg or 130 N. It has 12 v dc / 24 v dc with feedback option .

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.12 WHISPERTRAK™



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	340 N
Static load	-	1300 N
speed @ no load/max. load	-	78/64 mm/s
ordering stroke length	-	8 inch
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a medical actuator , very quiet , low noise level unit. Force is 2000 n and 4000 N . 24 v dc with hand held remote option.

4.3.13 ACTUATOR DMHD



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	16000 N
Static load	-	18000 N
speed @ no load/max. load	-	71/58 mm/s
ordering stroke length	-	600 mm
Operating temperature limits	-40 °C	85 °C

Industries it caters to

Materials handling equipmen
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a lifting column with HD actuator inside. Can take very high bending moments . 24 v dc or 12 v dc option , with all features of electric cylinder is available

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.14 ACTUATOR DMD



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	6800 N
Static load	-	18000 N
speed @ no load/max. load	-	61/37 mm/s
ordering stroke length	-	600 mm
Operating temperature limits	-25 °C	85 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a lifting column with LA10 actuator inside. Can take very high bending moments . 24 v dc or 12 v dc option , with all features of electric cylinder is available

4.3.15 ACTUATOR DMA



Selection parameters

Parameters	Min	Max
Available input voltages	12Vdc	24Vdc
Dynamic load	-	6800 N
Static load	-	18000 N
speed @ no load/max. load	-	53/43 mm/s
ordering stroke length	-	600 mm
Operating temperature limits	-25 °C	65 °C

Industries it caters to

Materials handling equipmen
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a lifting column with LA5 actuator inside. Can take very high bending moments .1 ph x 230 V AC option , with all features of electric cylinder is available

4.3 Thomson Linear Actuator (ILA) (continued)

4.3.15 ACTUATOR LM80-H



Selection parameters

Parameters	Min	Max
Available input voltages	12 Vdc	24 Vdc
Dynamic load	-	750 N
Static load	-	2000 N
speed @ no load/max. load	-	110/73 mm/s
ordering stroke length	-	1500 mm
Operating temperature limits	0 °C	40 °C

Industries it caters to

Materials handling equipment-
Packaging/packing industry-
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a Rodless actuator with very high bending moment capacity of 600 N-m . 12 v dc and 24 v dc available , typically used in medicval applications

4.3.16 ACTUATOR LM80-V



Selection parameters

Parameters	Min	Max
Available input voltages	12 Vdc	24 Vdc
Dynamic load	-	750 N
Static load	-	2000 N
speed @ no load/max. load	-	110/83 mm/s
ordering stroke length	-	1500 mm
Operating temperature limits	0 °C	40 °C

Industries it caters to

Materials handling equipmen
Packaging/packing industry
Medical equipment
Pneumatic equipment
Office equipment
Assembling machine industry

It is a Rodless actuator with very high bending moment capacity of 600 N-m . 12 v dc and 24 v dc available , typically used in medicval applications

4.4 Thomson Warner B-Track Actuator



Selection parameters

Parameters	Min	Max
Motor voltage	12V	48V
Stroke(inch)/(mm)	2/50.8	24/609.6
Load capacity	-	17760 N

Product application

- Mobile off-highway equipment
- Deck and implement lifts for tractors and mobile applications
- Solar Panels
- Scissor and dump box lifts

The B-track actuator has max 17 Kn capacity , ball screw driven in a compact package size. It is a best replacement for hydraulic cylinder where hydraulics is not available or not allowed for regulatory reason! Electric actuator is made in USA by Thomson. Warner is part of Thomson now

4.5 Thomson Warner H-Track Actuator



Industries it caters to

- Agriculture Industry
- Medical industry

Product application

- Sprayer booms
- Snow plow blades
- Patient lifts
- Mower deck lifts

Selection parameters

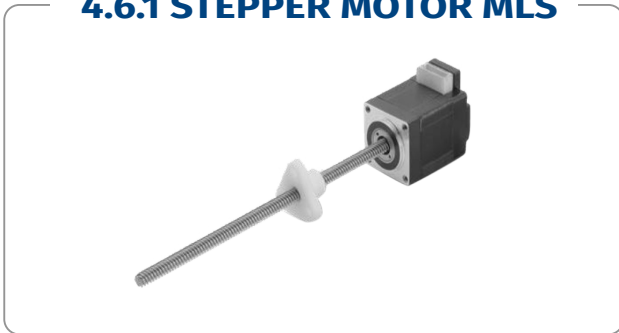
Parameters	Min	Max
Motor voltage	12V	48V
Stroke(inch)/(mm)	2/50	16/406
Load capacity	-	21350 N

H-track is a patented actuator , has performance similar to hydraulics but it is electric actuator. Has space saving compared to hydraulic power pack design , IP 65 protection.

4.6 Thomson Stepper Motor Linear Actuator



4.6.1 STEPPER MOTOR MLS



Selection parameters

Parameters	Min	Max
Motor current rating	0.5 amps	3.9 amps
Linear travel/rev	0.013 inch	45 mm
Axial Load	-	890 N
Operating Temperature	-10 °C	50 °C
Backlash with Standard	-	0.25 mm

Industries it caters to

Large machine tools
Conveyor system for heavy objects (guide ways for heavy loads)

Product application

3D printing
Precision press ram guides
Fluid pumps
XY stages
Pipetting

Stepper driven lead screw design actuator, for load capacity upto 890 N. Nut has various options- bronze/ Acetal, with and without backlash. Motorised actuator is a good replacement for pneumatic cylinder with high precision. Rotating screw design here, made in USA

4.6.2 STEPPER MOTOR MLN



Selection parameters

Parameters	Min	Max
Motor current rating	0.5 amps	3.9 amps
Linear travel/rev	0.013 inch	45 mm
Axial Load	-	890 N
Operating Temperature	-10 °C	50 °C
Backlash with Standard	-	0.25 mm

Industries it caters to

Large machine tools
Conveyor system for heavy objects (guide ways for heavy loads)

Product application

Horizontal positioning
Robotic gripper
Fluid pumps

Rotating nut design stepper actuator. We can translate load in either direction. The nut is inside the motor body. Upto NEMA 23 stepper motor and various inch plus metric leads available

4.6 Thomson Stepper Motor Linear Actuator (continued)

4.6.3 STEPPER MOTOR MLA



Selection parameters

Parameters	Min	Max
Motor current rating	0.5 amps	3.9 amps
Linear travel/rev	0.013 inch	1.378 inch
Axial Load	-	890 N
Operating Temperature	-10 °C	50 °C
Backlash with Standard	-	0.25 mm

Industries it caters to

Large machine tools
Conveyor system for heavy objects (guide ways for heavy loads)

Product application

Monitor tilting
Robotic gripper
Plate vertical positioning
Pipetting

Rotating nut design stepper actuator .We can translate load in either direction. The nut is inside the motor body. Upto NEMA 23 stepper motor and various inch plus metric leads available

4.7 Thomson Linear Ball Bushing Bearing



4.7 Thomson Linear Ball Bushing Bearing (continued)

4.7.1 SUPER BALL BUSHING® VBEARINGS(INCH)



Selection parameters

Parameters	Min	Max
Nominal diameter	3/16 inch	2 inch
Bearing Load Capacity	-	3000 lbf

Industries it caters to

Factory automation
Medical packaging
Machine tool
Semiconductor
Automotive assembly

Product application

Gerber Spreader M/c
Plot Cutting Machine, Gerber Technology.
LMW LAPFORMER LH 10 Textial Machine
Blister Packaging Machine
Leg Press Machine, Tuff Stuff, US

These are inch bore linear bearing , with self aligning capability. Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface.

4.7.2 SUPER BALL BUSHING® BEARINGS(METRIC)



Industries it caters to

Factory automation
Medical packaging
Machine tool
Semiconductor
Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	8 mm	50 mm
Bearing Load Capacity	-	14700 N

These are metric bore linear bearing , with self aligning capability. Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface.

4.7.3 SUPER SMART BALL BUSHING® BEARINGS(INCH)



Industries it caters to

Factory automation
Medical packaging
Machine tool
Semiconductor
Automotive assembly

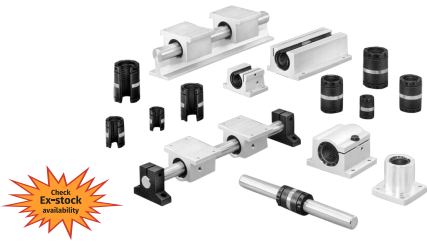
Selection parameters

Parameters	Min	Max
Nominal diameter	1/2 inch	1 1/2 inch
Bearing Load Capacity	-	3880 lbf

These are next generation linear bearing with higher load capacity in inch size. Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface.

4.7 Thomson Linear Ball Bushing Bearing (continued)

4.7.4 SUPER SMART BALL BUSHING® BEARINGS(METRIC)



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	16 mm	40 mm
Bearing Load Capacity	-	13700 N

These are next generation linear bearing with higher load capacity in metric size. Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface.

4.7.5 PRECISION STEEL BALL BUSHING BEARINGS(PRECISION)



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	3/16 inch	2 inch
Bearing Load Capacity	-	5000 lbf

These are precision all steel linear bearings MAM series .Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface

4.7.6 PRECISION STEEL BALL BUSHING BEARINGS(EXTRA PRECISION)



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	3/16 inch	2 inch
Bearing Load Capacity	-	5000 lbf

These are precision all steel linear bearings MAM series .Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface

4.7.7 PRECISION STEEL BALL BUSHING BEARINGS(INSTRUMENT)



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	1/8 inch	1/4 inch
Bearing Load Capacity	-	19 lbf

These are miniature linear bearings for instrumentation application

4.7 Thomson Linear Ball Bushing Bearing (continued)

4.7.8 PRECISION STEEL BALL BUSHING BEARINGS(DIE SET)



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	1 inch	2 inch
Bearing Load Capacity	-	1100 lbf

These are precision bearings used in die set application.

4.7.9 MULTITRAC BALL BUSHING® BEARINGS



Industries it caters to

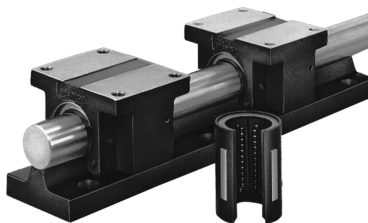
- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	8 mm	40 mm
Bearing Load Capacity	-	9250 N

These are linear bearings .Supplied with or without seal , runs on CASE 60 shaft ie shaft with 60 HRC hardness at surface

4.7.10 XR EXTRA RIGID BEARINGS



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	2 inch	3 inch
Bearing Load Capacity	-	10000 lbf

These are open type bearings with high rigidity used in specific applications

4.7.11 FLUORONYLINER® BUSHING® BEARINGS



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	1/4 inch	2 inch
Bearing Load Capacity	-	12500 lbf

These are Polymer bearings suitable for tough environment

4.7 Thomson Linear Ball Bushing Bearing (continued)

4.7.12 MINIATURE INSTRUMENT BALL BUSHING BEARINGS



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
Nominal diameter	0.125	0.25 inch
Bearing Load Capacity	inch	19 lbf

These are very small bore linear bearings starting from 3 mm bore!

4.7.13 "MINIATURE METRIC BALL BUSHING® BEARINGS



Industries it caters to

- Factory automation
- Medical packaging
- Machine tool
- Semiconductor
- Automotive assembly

Selection parameters

Parameters	Min	Max
LinearRace Shaft Size	3 mm	12 mm
Dynamic Load Rating	45 N	650 N
Load Limit (shaft/bearing)	50 N	650 N

These are very small bore linear bearings starting from 3 mm bore!

4.8 Thomson Roundway Bearings



Selection parameters

Parameters	Min	Max
Nominal diameter	1/2 inch	4 inch
Bearing Load Capacity	-	70000 lbf

Industries it caters to

- Steel processing
- Refineries
- Extremely high load applications
- Paper and wood processing
- Gantry systems

These are niche bearings suitable for open air working atmosphere. Single row or double row type are available. The Roundway bearings run on CASE 60 shaft, can run without lubrication.

Product application

- Non-Stop Turret Rewinder & High capacity roll slitting & winding machine (Universal-670) for Polyester film Plant
- Missile guidance system Material transfer in Nuclear power plant
- N/C Gantry-type milling and drilling machine
- Electrical discharge machine

4.9 Thomson Lead Screw



4.9.1 GLIDS SCREW(INCH)



Selection parameters

Parameters	Min	Max
Screw diameter	0.188 inch	0.375 inch
Screw lead	0.050 inch	1 inch
Efficiency percentage	36	83
Max axial load	30 lbs	70 lbs
Max screw length	6 inch	18 inch
Max moment load	20.5 in-lbs	137.5 in-lbs

Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Product application

Medical equipment
Engraving equipment
Semiconductor manufacturing equipment
Laboratory equipment

Glide screw is a combo of lead screw plus linear bearing in one compact package. Best for medical / lab automation type applications

4.9 Thomson Lead Screw (continued)

4.9.2 GLIDE SCREW(METRIC)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	4 mm	10 mm
Screw lead	1 mm	12 mm
Efficiency percentage	36	82
Max axial load	89 N	311.4 N
Max screw length	150 mm	400 mm
Max moment load	2.3 Nm	15.5 Nm

Glide screw is a combo of lead screw plus linear bearing in one compact package. Best for medical / lab automation type applications

4.9.3 XC ADVANCED ANTI-BACKLASH SUPERNUTS (INCH)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	3/16 inch	1 inch
Screw lead	0.0125 inch	2 inch
Axial load	-	350 lbf

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.4 XC ADVANCED ANTI-BACKLASH SUPERNUTS (MM)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	6 mm	24 mm
Screw lead	1 mm	50 mm
Axial load	-	1558 N

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.5 AFT ADVANCED ANTI-BACKLASH SUPERNUTS(INCH)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	0.375 inch	0.5 inch
Screw lead	0.050 inch	1.2 inch
Axial load	-	25.2 lbf

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9 Thomson Lead Screw (continued)

4.9.6 AFT ADVANCED ANTI-BACKLASH SUPERNUTS(MM)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	10 mm	10 mm
Screw lead	2 mm	20 mm
Axial load	-	112 N

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.7 SNAB ANTI-BACKLASH NUTS(INCH)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	0.1875 inch	1 inch
Screw lead	0.031 inch	2 inch
Axial load	-	400.2 lbf

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.8 SNAB ANTI-BACKLASH NUTS(MM)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	6 mm	24 mm
Screw lead	1 mm	50 mm
Axial load	-	1781 N

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.9 MTS FLANGE MOUNT SUPERNUTS(INCH)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

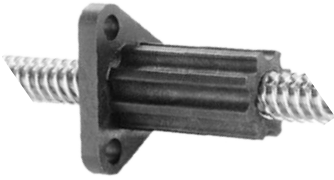
Selection parameters

Parameters	Min	Max
Screw diameter	0.188 inch	0.750 inch
Screw lead	0.031 inch	2 inch
Axial load	-	275.1 lbf

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9 Thomson Lead Screw (continued)

4.9.10 AFT ADVANCED ANTI-BACK-LASH SUPERNUTS(MM)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	6 mm	20 mm
Screw lead	1 mm	50 mm
Axial load	-	1224 N

These are round flange or triangular flange type nuts , made by Thomson in USA

4.9.11 SN THREAD MOUNT SUPERNUTS(INCH)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	0.1875 inch	1.5 inch
Screw lead	0.031 inch	2 inch
Axial load	-	400.2 lbf

This is a nut made from special polymer, made in USA by Thomson

4.9.12 SN THREAD MOUNT SUPERNUTS(MM)



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	6 mm	24 mm
Screw lead	1 mm	50 mm
Axial load	-	1781 N

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9.13 SB METRIC THREAD MOUNT SUPERNUTS



Industries it caters to

Medical industry
Textile industry
Pharmaceutical industry
Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	10 mm	24 mm
Screw lead	2 mm	50 mm
Axial load	-	1336 N

These are lead screw nuts made in USA by Thomson , with antibacklash property.

4.9 Thomson Lead Screw (continued)

4.9.14 SB METRIC THREAD MOUNT SUPERNUTS



Industries it caters to

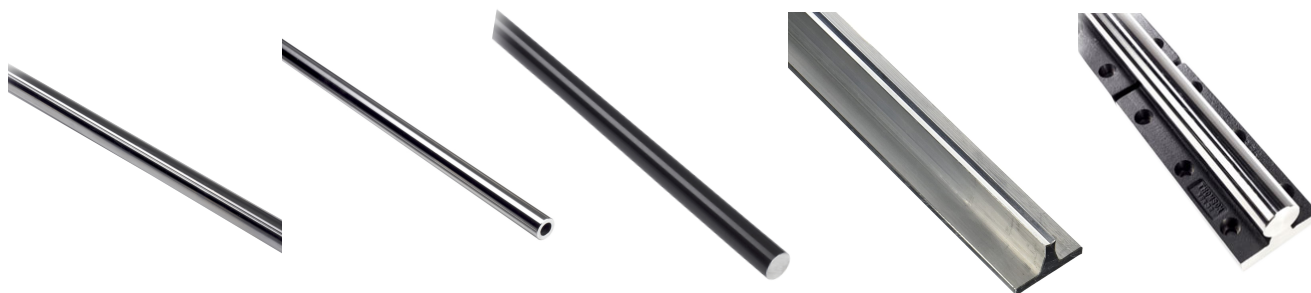
- Medical industry
- Textile industry
- Pharmaceutical industry
- Semiconductor industry

Selection parameters

Parameters	Min	Max
Screw diameter	0.250 inch	1.5 inch
Screw lead	0.0625 inch	1 inch
Axial load	-	4600.2 lbf

It is a Bronze material nut, suitable for shock load, good wear resistance. Use with Trigrel-600SM lube with it

4.10 Thomson Shafting



4.10.1 THOMSON 60 CASE® STANDARD SHAFTING



Industries it caters to

- Tyre industry
- Polyfilm industry
- Packaging industry

Selection parameters

Parameters	Min	Max
Diameter(inch)	1/8 inch	4 inch
Diameter(mm)	5 mm	80 mm

Thomson case 60 shaft has best roundness, straightness, case hardness and all the qualities of shafting that customers need. Thomson 60 Case® is manufactured to the highest quality standards. When it is used with Thomson linear bearings, ensures optimal bearing performance and travel life.

4.10 Thomson Shafting (continued)

4.10.2 ULTRA LIGHT ALUMINUM LINEARRACE® SHAFTING



Industries it caters to

Tyre industry
Polyfilm industry
Packaging industry

Selection parameters

Parameters	Min	Max
Diameter(inch)	1/4 inch	1 inch
Diameter(mm)	-	+/- 1/32

Thomson Ultra Light Aluminum LinearRace shafting is a lightweight alternative to standard Thomson 60 Case® in bush bearing applications. It is 65% lighter, the Ultra Light aluminum shafting also offers superior corrosion resistance for washdown and submerged environments - as compared to most steel shafting that corrodes over time. Being a non-magnetic material, aluminum shafting is ideal for medical imaging applications.

4.10.3 THOMSON SHAFT SUPPORT RAILS



Industries it caters to

Tyre industry
Polyfilm industry
Packaging industry

Selection parameters

Parameters	Min	Max
Diameter(inch)	0.25 inch	3 inch
Diameter(mm)	12 mm	40 mm

Support rails are used for continuous shafting support and can be mounted horizontally or vertically. Available in different types and sizes. You can specify the required length to make it as long as you need!

4.10.4 LINEARRACE® SHAFT RAIL ASSEMBLIES



Industries it caters to

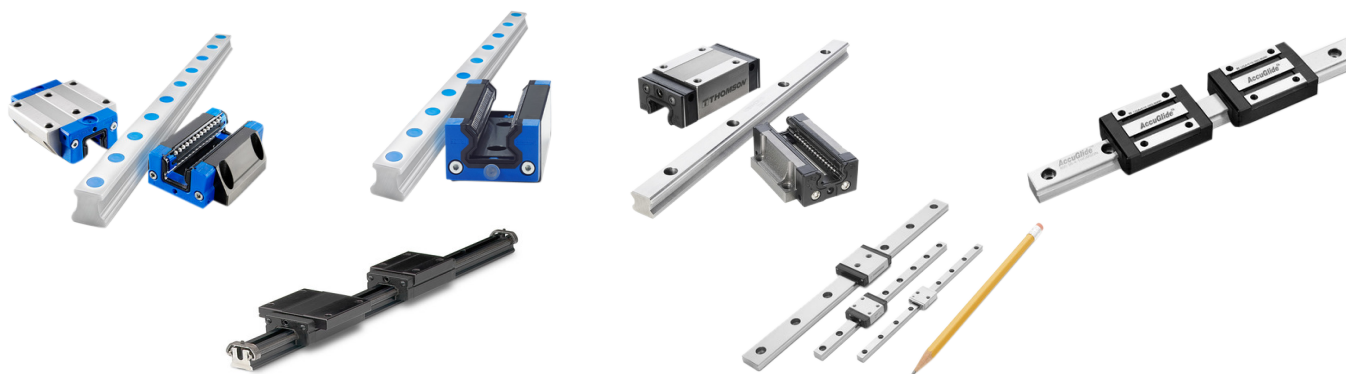
Tyre industry
Polyfilm industry
Packaging industry

Selection parameters

Parameters	Min	Max
Diameter(inch)	0.25 inch	3 inch
Diameter(mm)	12 mm	40 mm

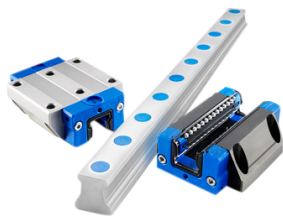
Support rails are combined with shaft, used for continuous shafting support and can be mounted horizontally or vertically. Available in different types and sizes. You can specify the required length to make it as long as you need!

4.11 Thomson Profile Rail and Block



4.11 Thomson Profile Rail and Block (continued)

4.11.1 500 SERIES BALL LINEAR GUIDES

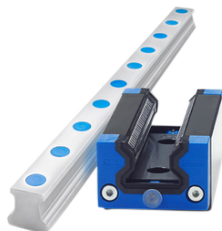


The ball rails are available as per series 500 with various preload option and standard rail length upto 6 m. We can increase the length further by "butting" it

Selection parameters

Parameters	Min	Max
Rail width	15 mm	65 mm
Dynamic Load	-	295000l N
Rating	-	20913 Nm
Static roll	-	1793l Nm
Static pitch	-	1793l Nm

4.11.2 500 SERIES ROLLER LINEAR GUIDES



Thomson roller rail and carriage , series 500 are available , with various preload option and standard rail length upto 6 m. We can increase the length further by "butting" it . Series 500

Selection parameters

Parameters	Min	Max
Rail width	15 mm	65 mm
Dynamic Load	-	295000l N
Rating	-	20913 Nm
Static roll	-	1793l Nm
Static pitch	-	1793l Nm

4.11.3 400 SERIES PROFILE RAIL LINEAR GUIDES



These are transport grade LM rails typically used in packaging machines, printing machines, general purpose applications. Series 400

Selection parameters

Parameters	Min	Max
Rail width	15 mm	55 mm
Dynamic Load	-	125168 N
Rating	-	6285 Nm
Static roll	-	6463 Nm
Static pitch	-	6463 Nm

4.11.4 ACCUMINI LINEAR GUIDES



These are classic Thomson LM rails used in various applications

Selection parameters

Parameters	Min	Max
Rail width	10 mm	20 mm
Dynamic Load Rating	-	1187l N
Static roll	-	236 Nm
Static pitch	-	141 Nm
Static yaw	-	141 Nm

4.11.5 MICROGUIDE® LINEAR GUIDES



These are miniature rails and carriages used in medical/ semicon applications

Selection parameters

Parameters	Min	Max
Rail width	7 mm	15 mm
Dynamic Load Rating	-	5287 N
Static roll	-	138 Nm
Static pitch	-	36 Nm
Static yaw	-	39 Nm

4.11 Thomson Profile Rail and Block (continued)

4.11.6 MICROGUIDE® LINEAR GUIDES

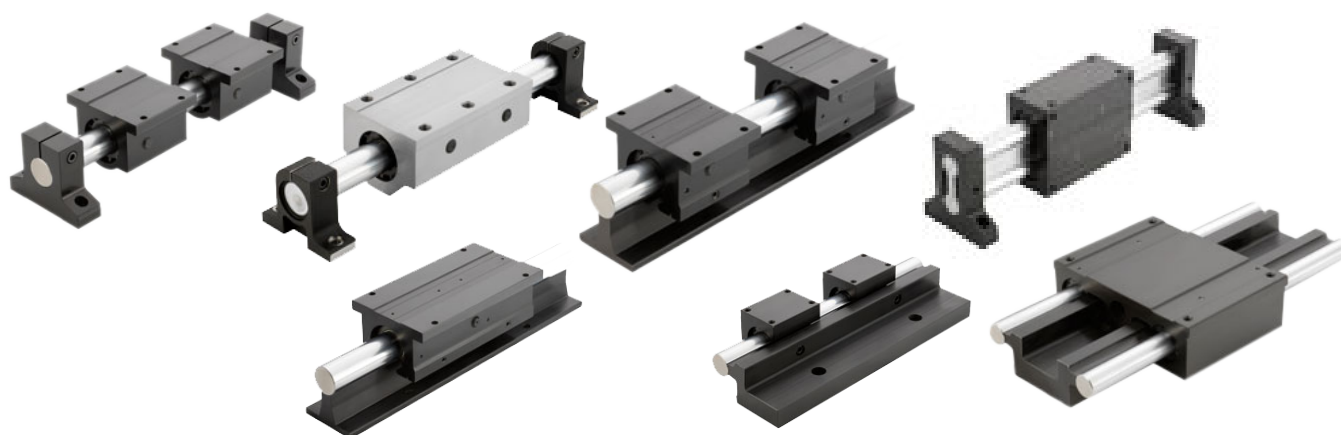


Selection parameters

Parameters	Min	Max
Rail width	20 mm	35 mm
Rail length	-	3000 mm
Dynamic Load Rating	9000 N	25000 N
Static load rating	11000 N	28000 N

Thomson's T-Series is a lightweight, flexible alternative to all-steel profile rails. This is made from aircraft aluminum alloy with hardened steel load bearing plates and ball paths. It is an ideal choice for applications requiring reduced weight inertia. This aluminum guidance system uses hardened steel inserts in carriages and rails. It gives a low-weight solution for critical, high performance applications.

4.12 Thomson Roundrail Guide System



4.12.1 1BX END SUPPORT ROUND- RAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.25 inch	1.5 inch
Load Capacity	-	27413 N

Industries it caters to

- Material Handling Equipment Manufacturer
- Aerospace and Defence
- Machine Tool Manufacturer
- Clean energy
- Packaging Equipment Manufacturer

It is shaft with end support and Super Smart bearings mounted on it

4.12 Thomson Roundrail Guide System (continue)

4.12.2 1NX END SUPPORT ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	8 mm	40 mm
Load Capacity	-	27413 N

Industries it caters to

Material Handling Equipment Manufacturer

Aerospace and Defence

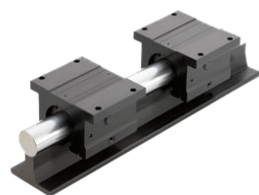
Machine Tool Manufacturer

Clean energy

Packaging Equipment Manufacturer

It is shaft with end support and Super Smart bearings mounted on it

4.12.3 1CX CONTINUOUS SUPPORT ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.50 inch	1.5 inch
Load Capacity	-	27413 N

Industries it caters to

Material Handling Equipment Manufacturer

Aerospace and Defence

Machine Tool Manufacturer

Clean energy

Packaging Equipment Manufacturer

It is shaft support with Super smart Open type bearing mounted on it, inch series.

4.12.4 1PX CONTINUOUS SUPPORT ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	12 mm	40 mm
Load Capacity	-	27401 N

Industries it caters to

Material Handling Equipment Manufacturer

Aerospace and Defence

Machine Tool Manufacturer

Clean energy

Packaging Equipment Manufacturer

It is shaft support with Super smart Open type bearing mounted on it, metric series.

4.12 Thomson Roundrail Guide System (continue)

4.12.5 1VX FLUORONYLINER® ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.50 inch	1.5 inch
Load Capacity	-	63301 N

Industries it caters to

Material Handling Equipment Manufacturer
Aerospace and Defence
Machine Tool Manufacturer
Clean energy
Packaging Equipment Manufacturer

It is combo of Fluoro Nyliner bearing and case 60 shaft with support

4.12.6 1DX CONTINUOUS SUPPORT ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.50 inch	1 inch
Load Capacity	-	2701 N

Industries it caters to

Material Handling Equipment Manufacturer
Aerospace and Defence
Machine Tool Manufacturer
Clean energy
Packaging Equipment Manufacturer

It is combo of Thomson Linear bearing and case 60 shaft with support

4.12.7 2DA DUAL SHAFT ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.50 inch	1 inch
Load Capacity	-	24031 N

Industries it caters to

Material Handling Equipment Manufacturer
Aerospace and Defence
Machine Tool Manufacturer
Clean energy
Packaging Equipment Manufacturer

It is combo of Thomson Linear bearing and case 60 shaft with support

4.12 Thomson Roundrail Guide System (continue)

4.12.8 2CA TWIN SHAFT WEB ROUNDRAIL LINEAR GUIDE SYSTEM



Selection parameters

Parameters	Min	Max
Shaft diameter	0.50 inch	1 inch
Load Capacity	-	13351 N

Industries it caters to

Material Handling Equipment Manufacturer
Aerospace and Defence
Machine Tool Manufacturer
Clean energy
Packaging Equipment Manufacturer

It is combo of Thomson Super smart Linear bearing and case 60 shaft with end support

4.13 Thomson Worm Gear Screw Jacks



Selection parameters

Parameters	Min	Max
Maximum Lifting Capacity	5 KN	500 KN
Screw Diameter and Pitch	18 x 4 (mm)	120 x
Gear Ratio High	4:1	14(mm)
Gear Ratio Low	16:1	14:1
Idling Torque Ratio High	0.04 Nm	56:1
Idling Torque Ratio Low	0.03 Nm	1.98 Nm

Industries it caters to

Solar and Wind energy

Product application

Scissor-lift system
Lifting device for an automatic
bar-machining installation
Surveying axles for rod locomotives
Hood lifting and parking brakes-wind

Thomson makes the Muli and Jumbo screw jacks in Germany. Max load capacity 50 ton per screw jack and stroke 5 m is possible. There is trapezoidal screw or ball screw design available. Motor is in customer scope.