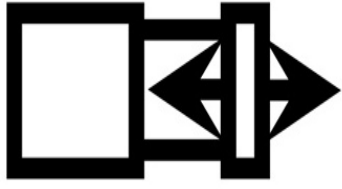


DURA-THRUST



LINEAR THRUSTERS

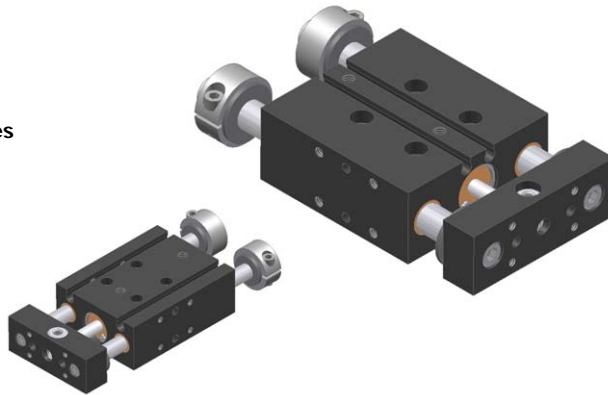


LT SERIES

PREMIER LINE

- Full range of sizes and strokes
- Internal Cylinder
- Precision Mounting
- Adjustable Hard Stops
- Robust design
- Extremely Durable
- Fully field serviceable
- Sensors Ready

See
Page **3-1.1**



ET SERIES

REPLACEABLE CYLINDER

- Full range of sizes and strokes
- External Cylinder
- Precision Mounting
- Hard Stops
- Robust design
- Extremely Durable
- Fully field serviceable
- Sensors Available

See
Page **3-2.1**





LT-SERIES

DURA-THRUST LT Series of Linear Thrusting Devices provide industry leading quality and durability for automatic working positioning/holding. The LT series is designed for high demanding applications where precision and durability are required.

FEATURES

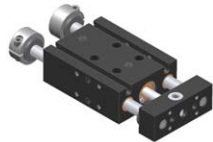
DURA-THRUST LT Series is internally powered by fully field repairable air cylinders. The slide bearings are oil impregnated bronze bushings. Rods are bolted to the end blocks to assure positive location and rigidity. Adjustable shaft mounted locking collars with nylon bumper pads allow easy setup and provide low noise level minimizing the clatter inherent in fast acting slide devices. Furthermore the entire LT series is sensor ready.

MOUNTING STYLES

DURA-THRUST LT Series units can be mounted and located in any plane with provided mounting holes and dowel pin holes. The main bodies contain counterbored clearance holes for cap screws and optional tapped holes for mounting with dowel pin holes for precise location. The end blocks contain tapped and dowel pin holes for easy adaptations to additional work moving/holding devices or customer tooling. Optional end blocks are also available for mounting 2 units together.

The LT series of linear thrusters is perfect for demanding applications such as part assembly, part stops or location, lifting tables, and clamps.

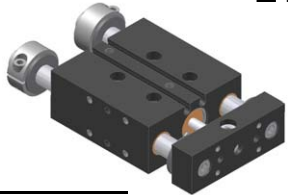
LT-1



SPECS
BORE DIA - 0.437" [11.1mm]
ROD DIA - 0.250" [6.35mm]

See Page **3-1.4**

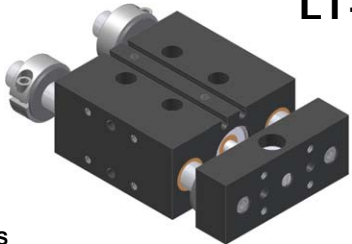
LT-2



SPECS
BORE DIA - 0.562" [14.3mm]
ROD DIA - 0.375" [9.5mm]

See Page **3-1.5**

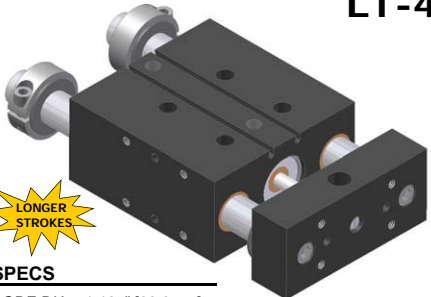
LT-3



SPECS
BORE DIA - 0.750" [19.1mm]
ROD DIA - 0.500" [12.7mm]

See Page **3-1.6**

LT-4



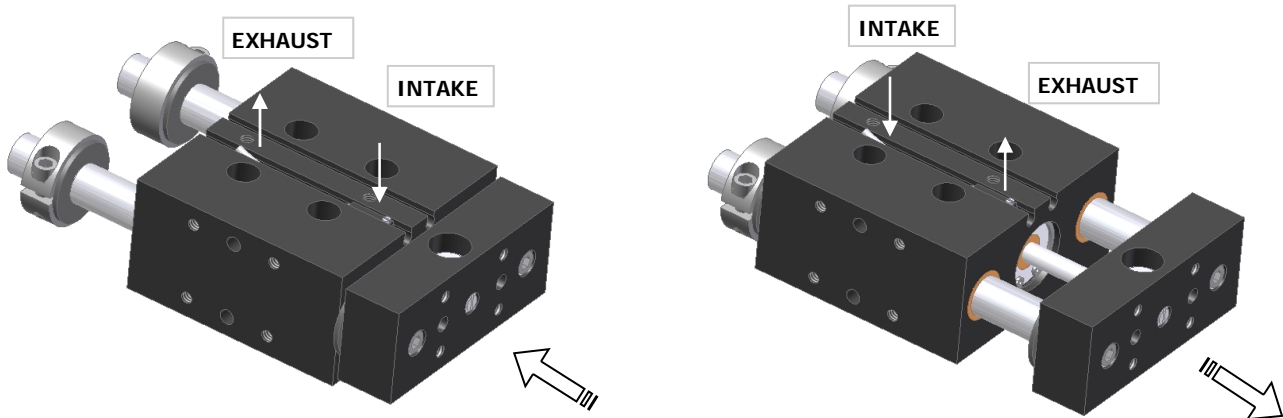
SPECS
BORE DIA - 1.125" [28.6mm]
ROD DIA - 0.750" [19.1mm]

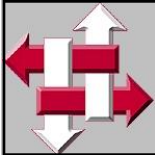
See Page **3-1.7**

TECHNICAL SPECIFICATION

Pneumatic Specifications	ENGLISH	METRIC
Pressure Range	40-150 psi	3-10.3 bar
Cylinder Type	Double Acting	
Dynamic Seals	Buna-N	
Required Valves	4-way, 2 position	
Temperature Range		
Buna-N Seals (standard)	-30 to 180 F	-35 to 80 C
Viton Seals (-V option)	-20 to 300 F	-30 to 150 C

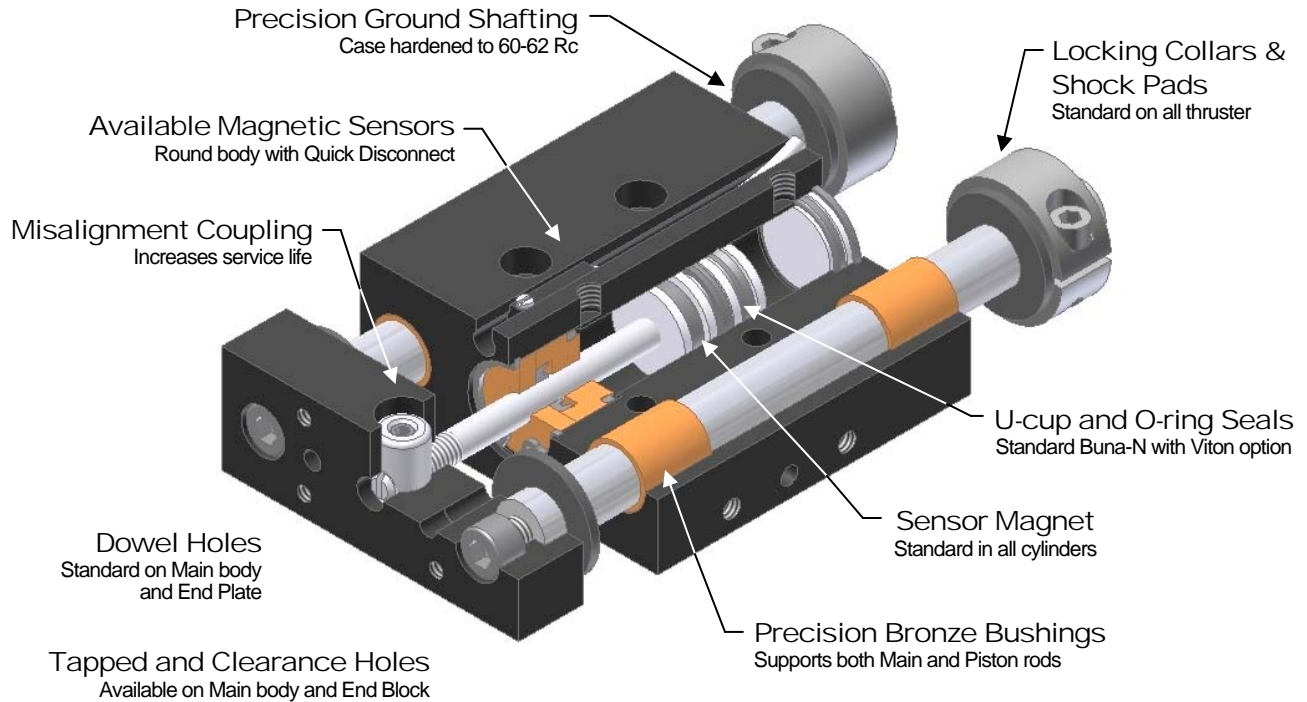
OPERATING PRINCIPLES





PRODUCT FEATURES

- Aircraft Grade Aluminum
Black Hard Coat
- Optional End blocks
For direct connection to next smaller thruster
- All Units Sensor Ready
For use with magnetic sensors

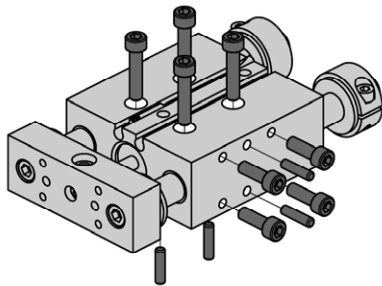


DESIGNED - MANUFACTURED - ASSEMBLED IN THE USA 

MOUNTING INFORMATION

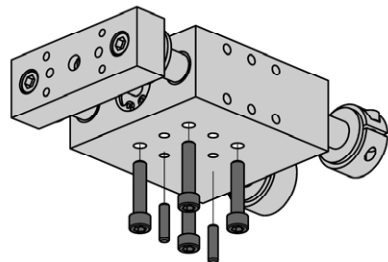
Mounts and operates in any orientation

MAIN BODY



Mount thru Main body using C-bore Clearance holes on topside and Tapped holes on both sides.

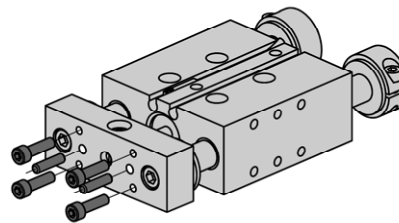
Use Dowel holes for positive location.



(-T) Option retains Tapped holes on both sides and provides Tapped holes to mount up to bottom.

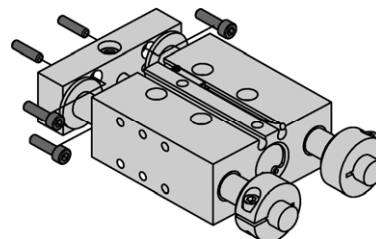
Use Dowel holes for positive location

PAYLOAD



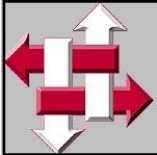
Mount Payload to End block using Tapped holes.

Use Dowel holes for positive location.



(-C) Option allowing thru the End block to the payload using C-bore Clearance holes.

Use Dowel holes for positive location.



ADDITIONAL INFORMATION

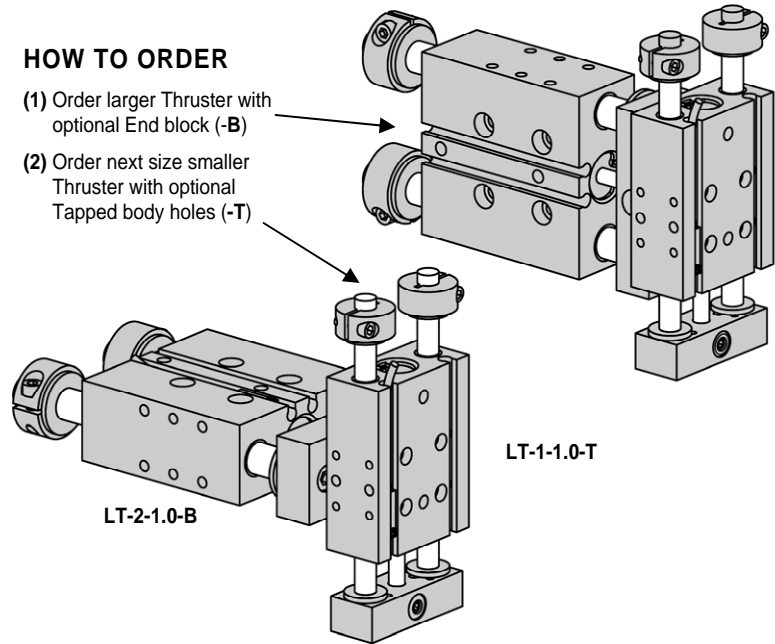
DURA-THRUST LT SYSTEMS

With DURA-THRUST LT series each thruster unit can mount directly to the next smaller thruster thru an optional end block

The thruster are mounted with cap screws and located with Dowel Pins and can be position in both orientations shown.

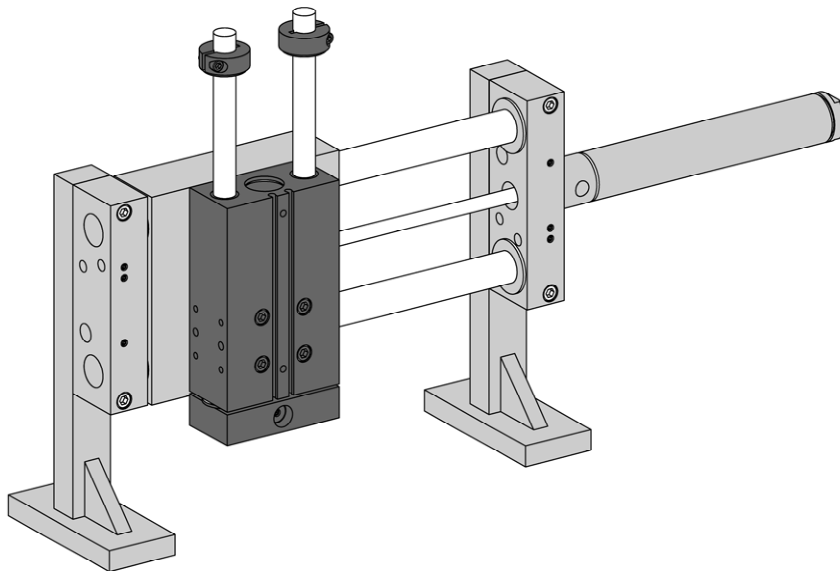
HOW TO ORDER

- (1) Order larger Thruster with optional End block (-B)
- (2) Order next size smaller Thruster with optional Tapped body holes (-T)



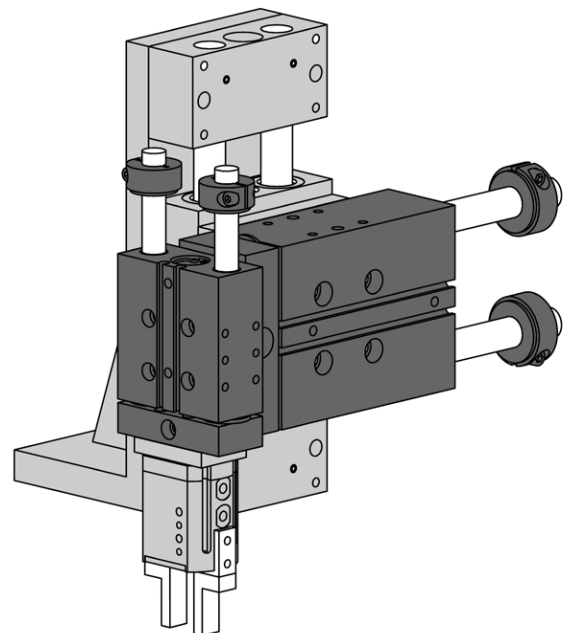
NO ADAPTER PLATES

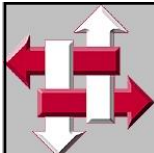
CUSTOM APPLICATIONS



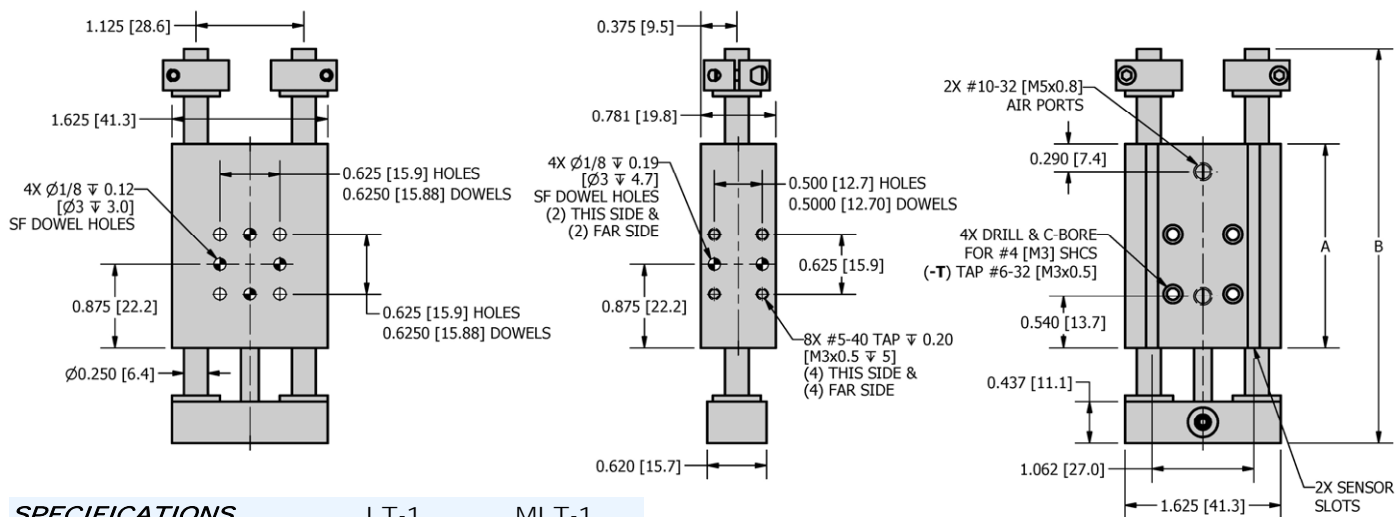
Overhead Gantry system created using a DURA-SLIDE LSE Air Slide with a DURA-THRUST LT Linear Thruster

Multi-Level Pick and Place system created using a DURA-SLIDE RGC Linear Slide with two DURA-THRUST LT Linear Thruster





DIMENSIONAL DRAWING



SPECIFICATIONS

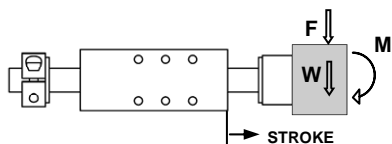
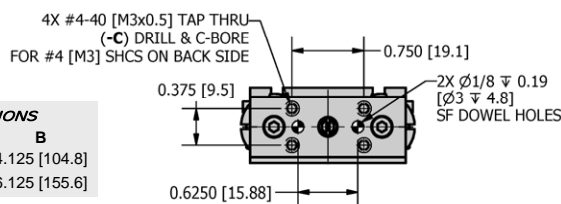
	LT-1	MLT-1
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	12.0 lbf	53.3 N
Unit Force Factor - Extend	0.15 lbf/psi	9.7 N/bar
Unit Force Factor - Retract	0.12 lbf/psi	7.9 N/bar
Base Weight	0.35 lb	0.16 kg
Additional Weight per Stroke	0.16 lb/in	2.9 g/mm
Cylinder Bore Diameter	0.437"	11.10 mm
Shaft Diameter	0.250"	6.35 mm

LOADING

	LT-1		MLT-1	
STROKE (in [mm])	1"	2"	25.4	50.8
Max Applied Load (Extended) F+W	8 lbf	4 lbf	36 N	18 N
Max Moment M	10 lbf-in		1.1 N-m	
Max Dynamic Load (Payload) W	2 lbf		0.91 kg	

ADDITIONAL DIMENSIONS

STROKE	A	B
1" [25.4]	2.125 [56.5]	4.125 [104.8]
2" [50.8]	3.125 [81.9]	6.125 [155.6]

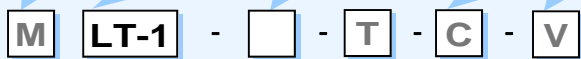


Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE END BLOCK SEALS



METRIC M

STROKE Inch: 1.0", 2.0"
mm: 25.4, 50.8

END PLATE C - C-bore Clearance holes

HOLES T - Tapped Body

SEALS V - Viton (standard Buna - N)

HOLES

MAGNETIC SENSOR KITS * (Round track mounted)

RSK-N - Magnetic Sensor NPN w/ quick disconnect Kit

RSK-P - Magnetic Sensor PNP w/ quick disconnect Kit

* Sensors kits include (2) sensors and (2) 5 meter cables.

MAGNETIC SENSORS * (Round track mounted)

RS-N - Magnetic Sensor NPN w/ quick disconnect

RS-P - Magnetic Sensor PNP w/ quick disconnect

* Includes (1) sensor.

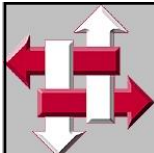
SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

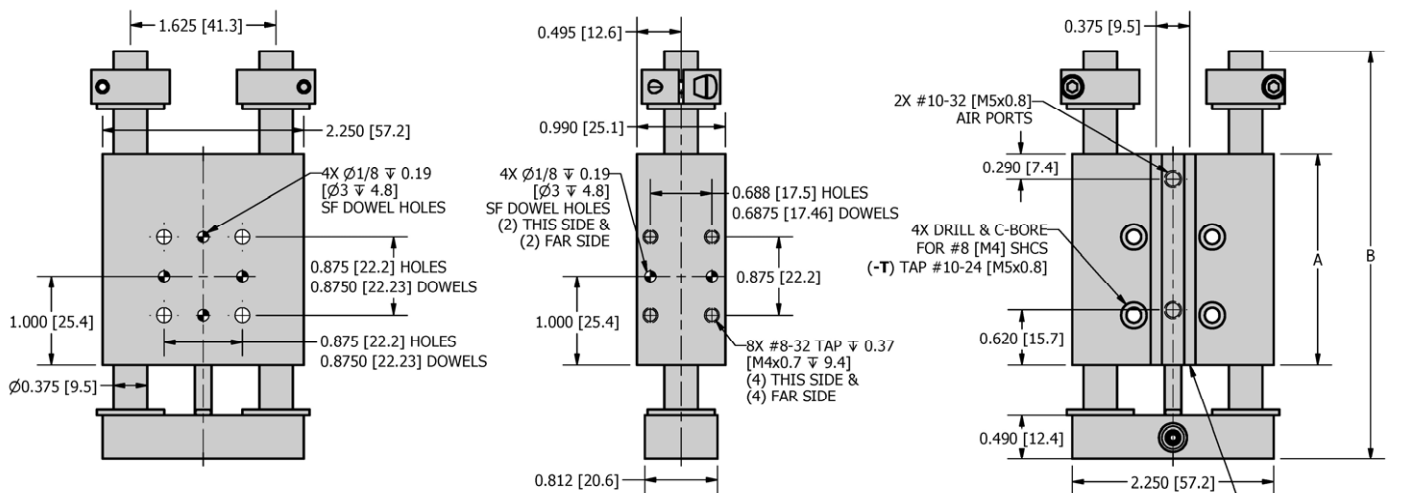
SAMPLE ORDER: LT-1-2.0-T

Ex) LT-1 Thruster with 2 inch stroke and Tapped Body Holes

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**



DIMENSIONAL DRAWING



SPECIFICATIONS

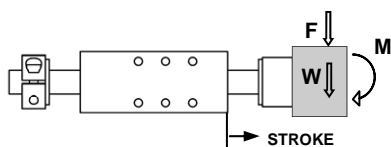
	LT-2	MLT-2
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	19.8 lbf	88.2 N
Unit Force Factor - Extend	0.25 lbf/psi	16.0 N/bar
Unit Force Factor - Retract	0.22 lbf/psi	14.2 N/bar
Base Weight	0.90 lb	0.41 kg
Additional Weight per Stroke	0.16 lb/in	2.9 g/mm
Cylinder Bore Diameter	0.562"	14.27 mm
Shaft Diameter	0.375"	9.53 mm

ADDITIONAL DIMENSIONS

STROKE	A	B
1" [25.4]	2.375 [60.3]	4.575 [90.8]
2" [50.8]	3.375 [85.7]	6.575 [167.0]
3" [76.2]	4.375 [111.1]	8.575 [217.8]

LOADING

	LT-2			MLT-2		
STROKE (in [mm])	1"	2"	3"	25.4	50.8	76.2
Max Applied Load (Extended) F+W	20 lbf	10 lbf	5 lbf	89 N	45 N	22 N
Max Moment M	50 lbf-in			5.6 N-m		
Max Dynamic Load (Payload) W	5 lbf			2.3 kg		

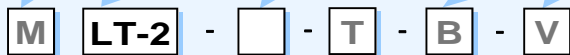


CAUTION! Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE END BLOCK SEALS



- METRIC** M
- STROKE** Inch: 1.0", 2.0", 3.0"
mm: 25.4, 50.8, 76.2
- HOLES** T - Tapped Body
- END PLATE** B - End Plate for direct connection to the LT-1
C - C-bore Clearance holes
- SEALS** V - Viton (standard Buna - N)

MAGNETIC SENSOR KITS * (Round track mounted)

- RSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- RSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- * Sensors kits include (2) sensors and (2) 5 meter cables.

MAGNETIC SENSORS * (Round track mounted)

- RS-N - Magnetic Sensor NPN w/ quick disconnect
- RS-P - Magnetic Sensor PNP w/ quick disconnect
- * Includes (1) sensor.

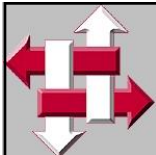
SENSOR CABLE

- SENCAB-5 - Quick Disconnect PUR Cable 5M Length

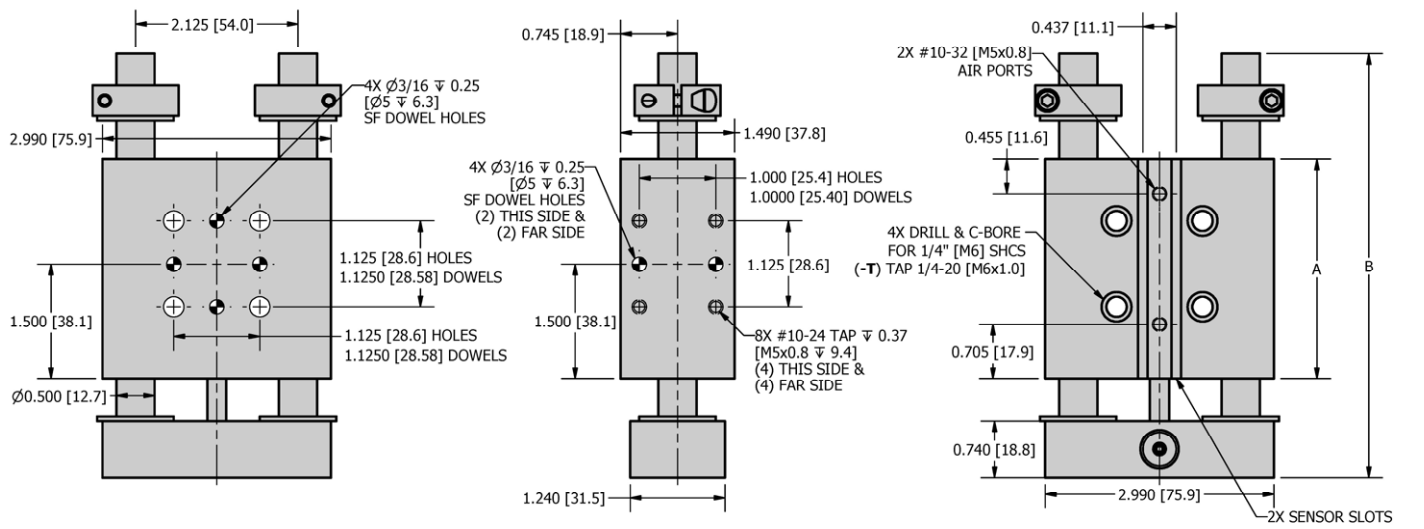
SAMPLE ORDER: LT-2-2.0-T

Ex) LT-2 Thruster with 2 inch stroke and Tapped Body Holes

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**



DIMENSIONAL DRAWING



SPECIFICATIONS

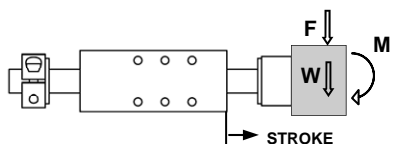
	LT-3	MLT-3
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	35.3 lbf	157 N
Unit Force Factor - Extend	0.44 lbf/psi	28.5 N/bar
Unit Force Factor - Retract	0.39 lbf/psi	25.3 N/bar
Base Weight	2.19 lb	0.99 kg
Additional Weight per Stroke	0.54 lb/in	9.6 g/mm
Cylinder Bore Diameter	0.750"	19.05 mm
Shaft Diameter	0.500"	12.7 mm

ADDITIONAL DIMENSIONS

STROKE	A	B
1" [25.4]	2.875 [73.0]	5.553 [141.0]
2" [50.8]	3.875 [98.4]	7.553 [191.8]
3" [76.2]	4.875 [123.8]	9.553 [242.6]

LOADING

	LT-3		MLT-3			
STROKE (in [mm])	1"	2"	3"	25.4	50.8	76.2
Max Applied Load (Extended) F+W	30 lbf	15 lbf	10 lbf	133 N	69 N	45 N
Max Moment M	75 lbf-in		8.5 N-m			
Max Dynamic Load (Payload) W	10 lbf		4.5 kg			



CAUTION! Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE END BLOCK SEALS

M **LT-3** - - **T** - **B** - **V**

METRIC M

STROKE Inch: 1.0", 2.0", 3.0"
mm: 25.4, 50.8, 76.2

HOLES T - Tapped Body

END PLATE B - End Plate for direct connection to the LT-2
C - C-bore Clearance holes

SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: LT-3-2.0-V

Ex) LT-3 Thruster with 2 inch stroke and Viton Seals

MAGNETIC SENSOR KITS * (Round track mounted)

RSK-N - Magnetic Sensor NPN w/ quick disconnect Kit

RSK-P - Magnetic Sensor PNP w/ quick disconnect Kit

* Sensors kits include (2) sensors and (2) 5 meter cables.

MAGNETIC SENSORS * (Round track mounted)

RS-N - Magnetic Sensor NPN w/ quick disconnect

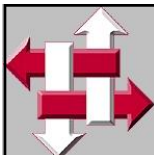
RS-P - Magnetic Sensor PNP w/ quick disconnect

* Includes (1) sensor.

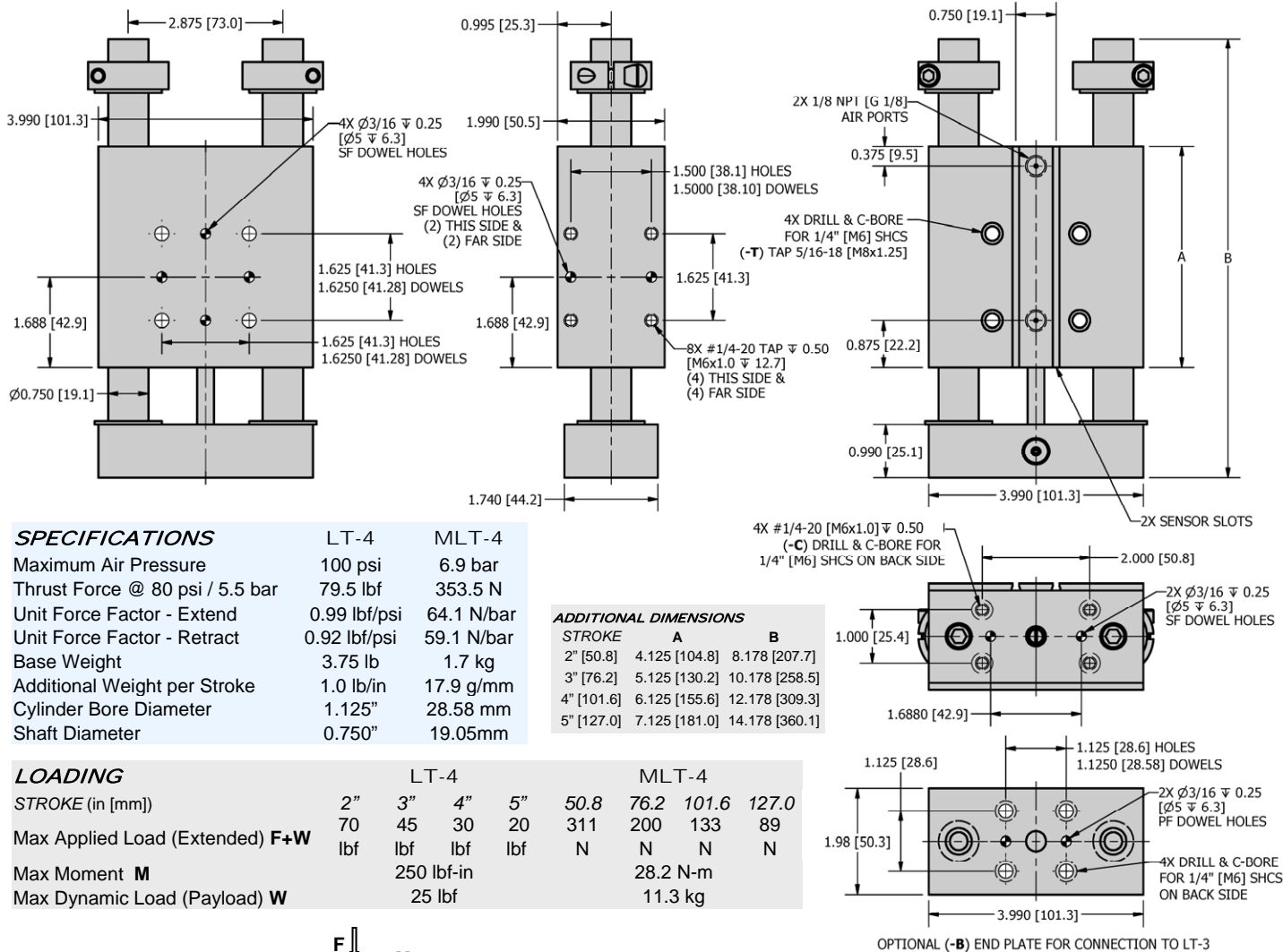
SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**



DIMENSIONAL DRAWING



SPECIFICATIONS

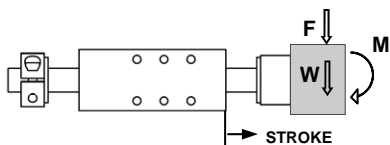
	LT-4	MLT-4
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	79.5 lbf	353.5 N
Unit Force Factor - Extend	0.99 lbf/psi	64.1 N/bar
Unit Force Factor - Retract	0.92 lbf/psi	59.1 N/bar
Base Weight	3.75 lb	1.7 kg
Additional Weight per Stroke	1.0 lb/in	17.9 g/mm
Cylinder Bore Diameter	1.125"	28.58 mm
Shaft Diameter	0.750"	19.05mm

ADDITIONAL DIMENSIONS

STROKE	A	B
2" [50.8]	4.125 [104.8]	8.178 [207.7]
3" [76.2]	5.125 [130.2]	10.178 [258.5]
4" [101.6]	6.125 [155.6]	12.178 [309.3]
5" [127.0]	7.125 [181.0]	14.178 [360.1]

LOADING

	LT-4				MLT-4			
STROKE (in [mm])	2"	3"	4"	5"	50.8	76.2	101.6	127.0
Max Applied Load (Extended) F+W	70	45	30	20	311	200	133	89
	lbf	lbf	lbf	lbf	N	N	N	N
Max Moment M		250				28.2		
		lbf-in				N-m		
Max Dynamic Load (Payload) W		25				11.3		
		lbf				kg		

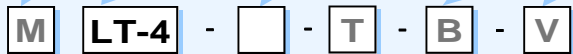


Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE END BLOCK SEALS



- METRIC** M
- STROKE** Inch: 2.0", 3.0", 4.0", 5.0"
mm: 50.8, 76.2, 101.6, 127.0
- HOLES** T - Tapped Body
- END PLATE** B - End Plate for direct connection to the LT-3
C - C-bore Clearance holes
- SEALS** V - Viton (standard Buna - N)

SAMPLE ORDER: LT-4-3.0-T

Ex) LT-4 Thruster with 3 inch stroke and Tapped Body Holes

MAGNETIC SENSOR KITS * (Round track mounted)

- RSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- RSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- * Sensors kits include (2) sensors and (2) 5 meter cables.

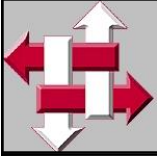
MAGNETIC SENSORS * (Round track mounted)

- RS-N - Magnetic Sensor NPN w/ quick disconnect
- RS-P - Magnetic Sensor PNP w/ quick disconnect
- * Includes (1) sensor.

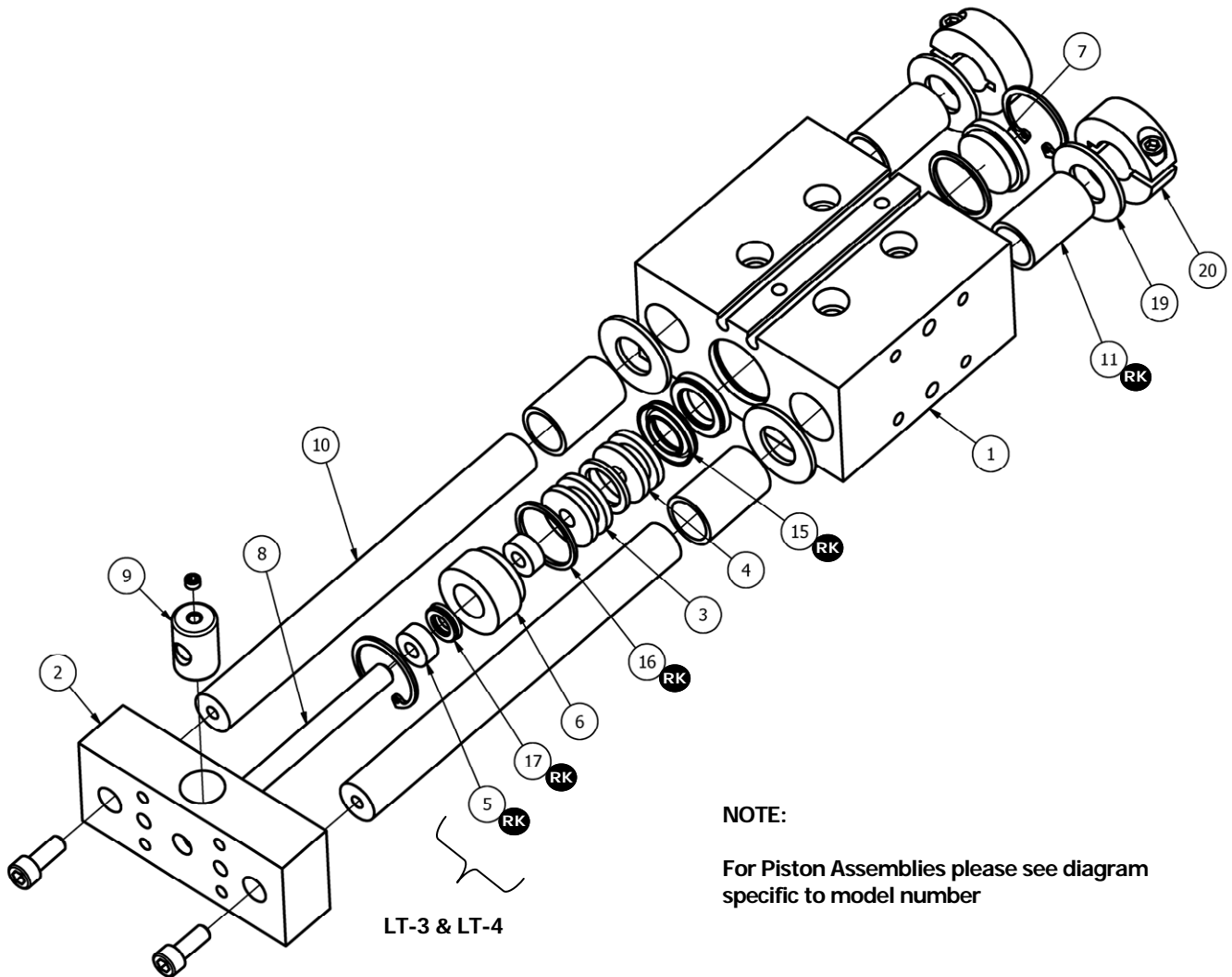
SENSOR CABLE

- SENCAB-5 - Quick Disconnect PUR Cable 5M Length

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**



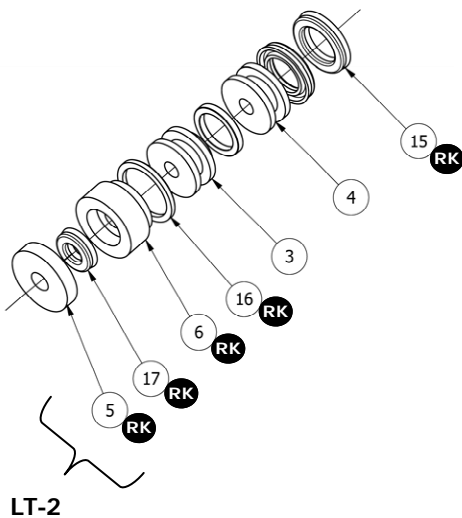
EXPLODED VIEW



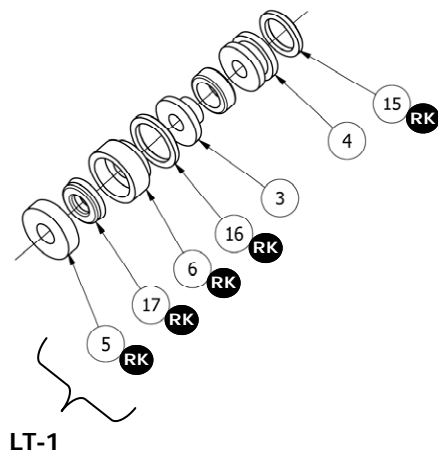
LT-3 & LT-4

NOTE:

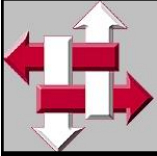
For Piston Assemblies please see diagram specific to model number



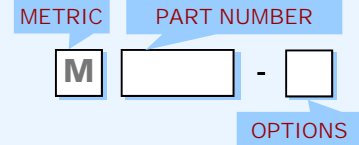
LT-2



LT-1



ITEM	REQ'D	NAME	LT-1	LT-2	LT-3	LT-4	OPTIONS
1	1	Main Body	LT-101	LT-201	LT-301	LT-401	-S ¹ -T ³
2	1	End Block	LT-102	LT-202	LT-302	LT-402	-B ⁴ -C ⁵
3	1	Rear Piston *	LT-103	LT-203	LT-303	LT-403	
4	1	Front Piston *	LT-104	LT-204	LT-304	LT-404	
5	See Table	Guide Bushing *	LT-105 (1 REQ'D)	LT-205 (1 REQ'D)	LT-305 (2 REQ'D)	LT-405 (2 REQ'D)	
6	1	Seal Bushing *	LT-106	LT-206	LT-306	LT-406	
7	1	End Cap *	LT-107	LT-207	LT-307	LT-407	
8	1	Piston Rod	LT-108	LT-208	LT-308	LT-408	-S ¹
9	1	Connector *	LT-109	LT-209	LT-309	LT-409	
10	2	Rod	LT-110	LT-210	LT-310	LT-410	-S ¹
11	4	Bushing *	LT-111	LT-211	LT-311	LT-411	
15	See Table	Piston Seal *	ORG-011 (1 REQ'D)	UCP-125 (2 REQ'D)	UCP-225 (2 REQ'D)	UCP-255 (2 REQ'D)	-V ²
16	2	O-ring *	ORG-012	ORG-014	ORG-018	ORG-023	-V ²
17	1	Piston Rod Seal *	UCP-110		UCP-115	UCP-212	-V ²
19	4	Shock Pads *	XSP-0250	XSP-0375	XSP-0500	XSP-0750	
20	2	Locking Collars *	XLC-0250	XLC-0375	XLC-0500	XLC-0750	
21	1	Repair Kit **	LT-1-RK	LT-2-RK	LT-3-RK	LT-4-RK	-V ²



SAMPLE ORDER: LT-108-2.0

Ex) LT-1 Piston Rod with 2 inch stroke

OPTIONS (see product pages for information)

- ¹ - S = Stroke
- ² - V = Viton Seals option
- ³ - T = Tapped Holes option
- ⁴ - B = Adapter End Block option
- ⁵ - C = C-bore Clearance option

NOTES

- * - Metric code not required
- # - Repair Kits include req'd qty of parts marked with RK in diagram above specific to thruster model



ET-SERIES

NON-ROTATING VERTICAL / LIGHT DUTY HORIZONTAL LINEAR THRUSTER

DURA-THRUST ET Series of Linear Thrusting Devices provide a practical, low-cost, economy approach to automatic working positioning/holding. The ET series is designed for non-rotating vertical or light duty horizontal applications where the load capacity our LT series are not required, while still offering the quality construction and durability you've come to expect.

FEATURES

DURA-THRUST ET Series is externally powered by standard non-repairable air cylinders. The slide bearings are oil impregnated bronze bushings. Rods are pinned to the end blocks to assure positive location. Adjustable shaft mounted locking collars with nylon bumper pads allow easy setup and provide low noise level minimizing the clatter inherent in fast acting slide devices. Furthermore the entire ET series is sensor ready.

MOUNTING STYLES

DURA-THRUST ET Series units can be mounted and located in any plane with provided mounting holes and dowel pin holes. The main bodies contain both tapped holes and counterbored clearance holes for cap screws. The end blocks contain the same features for easy adaptations to additional work moving/holding devices or customer tooling.

The ET series of economy thrusters is perfect for simple applications such as part ejection, part stops, lifting tables, and clamps.

TECHNICAL SPECIFICATION

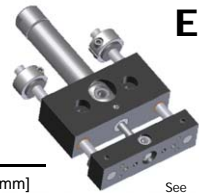
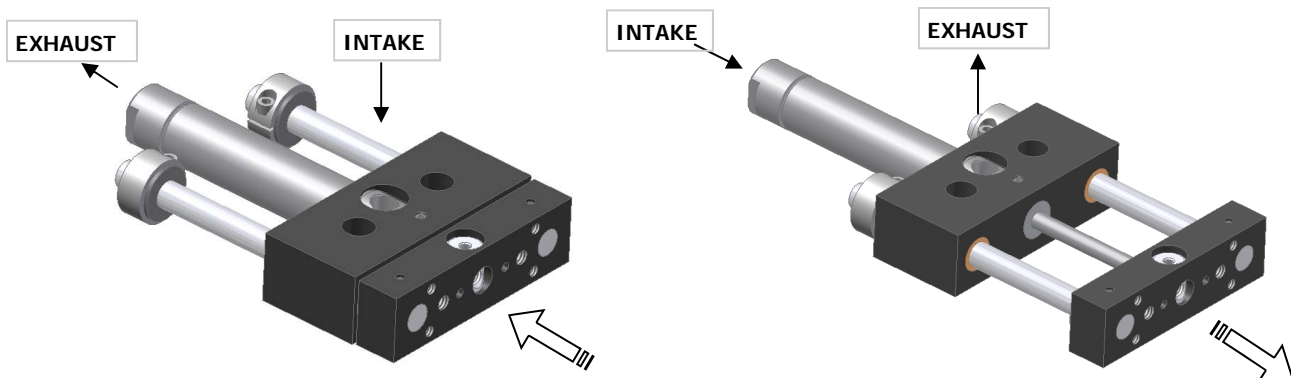
Pneumatic Specifications

	ENGLISH	METRIC
Pressure Range	40-150 psi	3-10.3 bar
Cylinder Type	Double Acting	
Dynamic Seals	Buna-N	
Required Valves	4-way, 2 position	

Temperature Range

Buna-N Seals (standard)	-30 to 180 F	-35 to 80 C
Viton Seals (-V option)	-20 to 300 F	-30 to 150 C

OPERATING PRINCIPLES



ET-1

SPECS

BORE DIA - 0.562" [14.3mm]
ROD DIA - 0.250" [6.4mm]

See Page **3-2.3**



ET-2

SPECS

BORE DIA - 0.750" [19.1mm]
ROD DIA - 0.375" [9.5mm]

See Page **3-2.4**

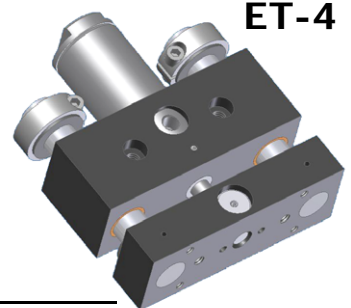


ET-3

SPECS

BORE DIA - 1.062" [27.0mm]
ROD DIA - 0.500" [12.7mm]

See Page **3-2.5**

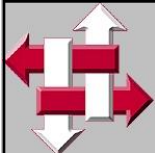


ET-4

SPECS

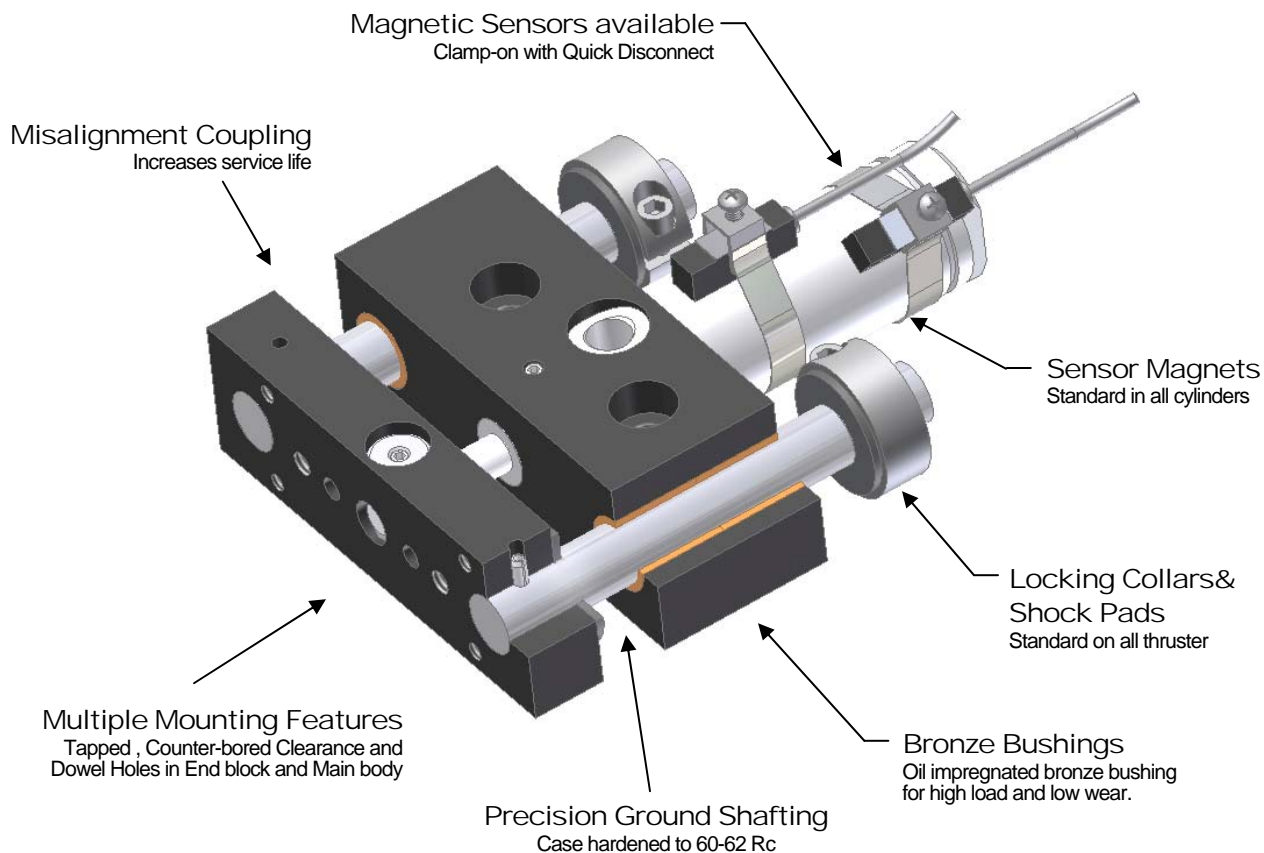
BORE DIA - 1.500" [38.1mm]
ROD DIA - 0.750" [19.1mm]

See Page **3-2.6**



PRODUCT FEATURES

- Aircraft Grade Aluminum Black Anodize Finish
- Precision Features - Low Cost Sensor Ready and Precision Mounting
- All Units Sensor Ready For use with Magnetic Sensors



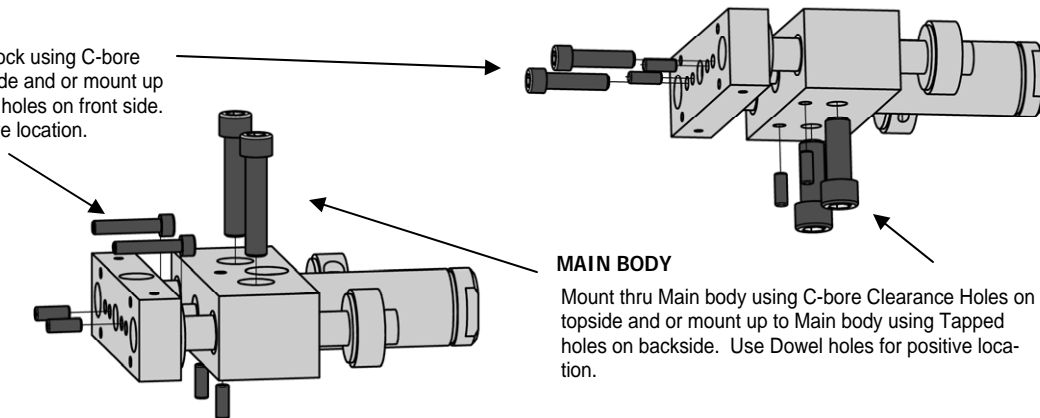
DESIGNED - MANUFACTURED - ASSEMBLED IN THE USA 

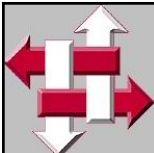
MOUNTING INFORMATION

Mounts and operates in any orientation

PAYLOAD

Mount Payload thru End block using C-bore Clearance Holes on backside and or mount up to End block using Tapped holes on front side. Use Dowel holes for positive location.



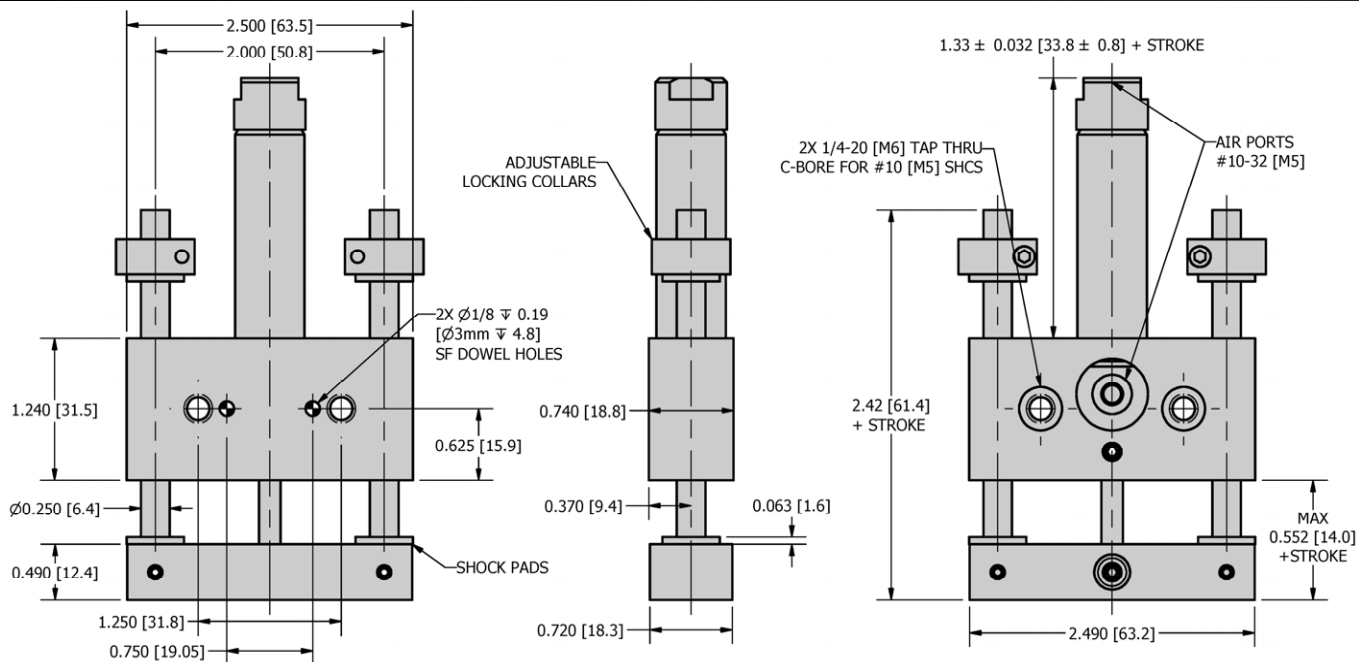


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DURA-THRUST
VERTICAL - LIGHT DUTY HORIZONTAL
LINEAR THRUSTER

ET-1

DIMENSIONAL DRAWING



SPECIFICATIONS

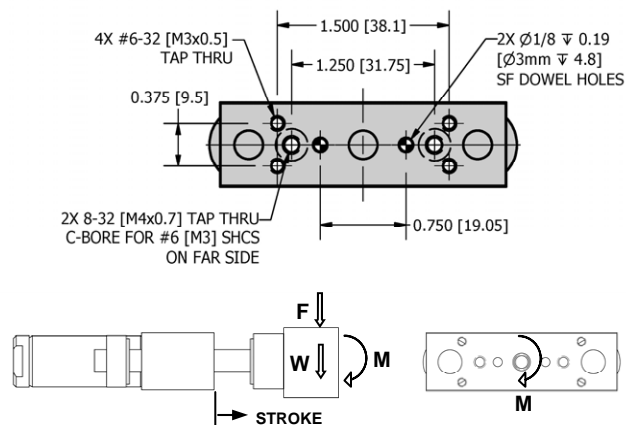
	ET-1	MET-1
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	19.2 lbf	85.4 N
Unit Force Factor - Extend	0.24 lbf/psi	15.5 N/bar
Unit Force Factor - Retract	0.22 lbf/psi	14.2 N/bar
Base Weight	0.47 lb	0.21 kg
Additional Weight per Stroke	0.05 lb/in	0.85 g/mm
Cylinder Bore Diameter	0.562"	14.27 mm
Shaft Diameter	0.250"	6.35 mm

LOADING

	ET-1	MET-1
Typical Load (Force + Weight)*Stroke (F+W)*S	4 lbf-in	0.45 N-m
Max Moment M	4 lbf-in	0.45 N-m
Typical Dynamic Payload W	2 lbf	0.91 kg

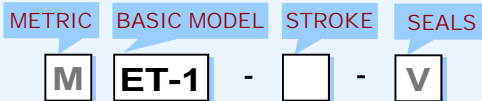


Flow controls recommended for nearly all applications



HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)



METRIC M

STROKE Inch: 1.0" - 4.0" in 0.5" increments
mm: 25.4 - 101.6 in 25.4mm increments

SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: ET-1-2.0

Ex) ET-1 Thruster with 2 inch stroke

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**

MAGNETIC SENSOR KITS * (Cylinder clamp mounted)

- CSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- CSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- CSK-R - Magnetic Sensor REED w/ quick disconnect Kit

* Sensors Kits include (2) sensors and (2) cylinder clamps and (2) 5 meter cables.

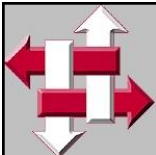
MAGNETIC SENSORS * (Cylinder clamp mounted)

- CS-N - Magnetic Sensor NPN w/ quick disconnect
- CS-P - Magnetic Sensor PNP w/ quick disconnect
- CS-R - Magnetic Sensor REED w/ quick disconnect

* Includes (1) sensors and (1) cylinder clamp

SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

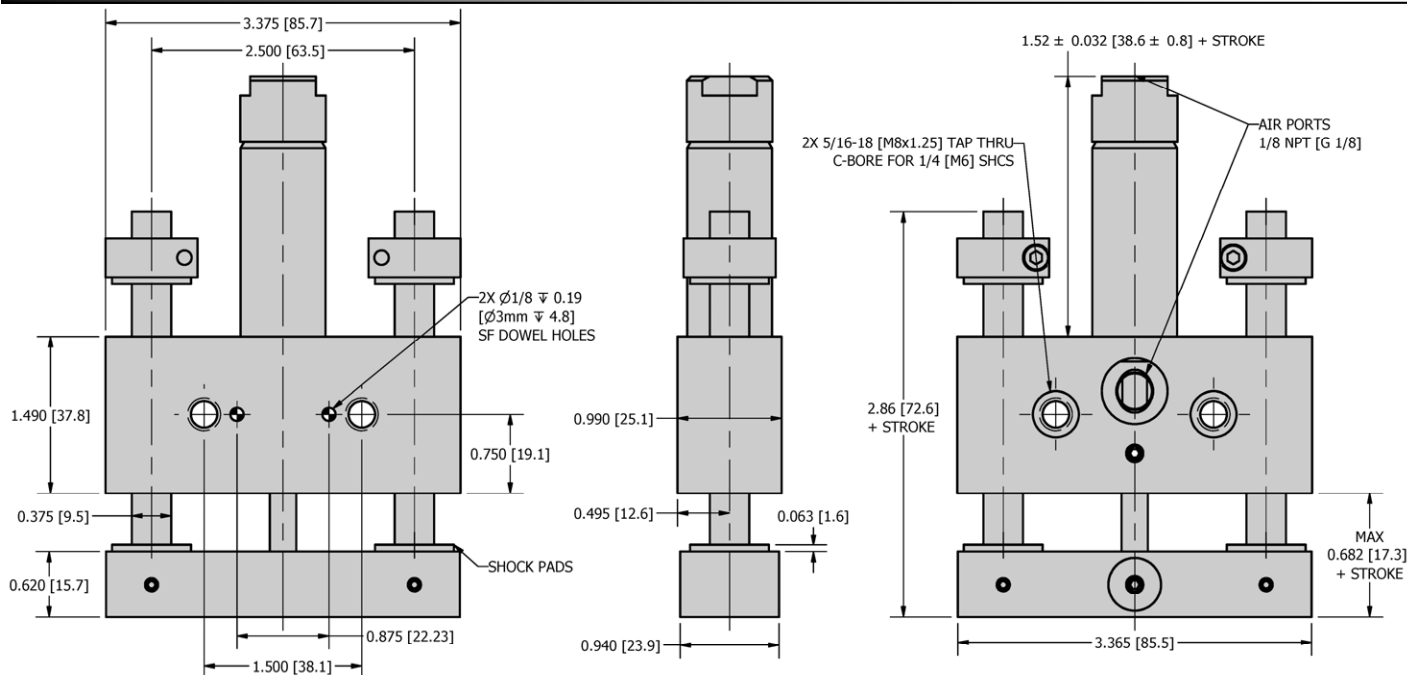


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DURA-THRUST
VERTICAL - LIGHT DUTY HORIZONTAL
LINEAR THRUSTER

ET-2

DIMENSIONAL DRAWING

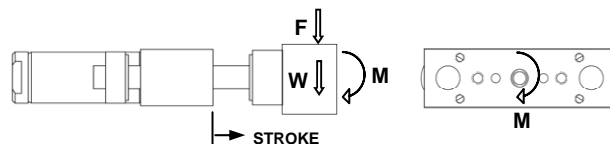
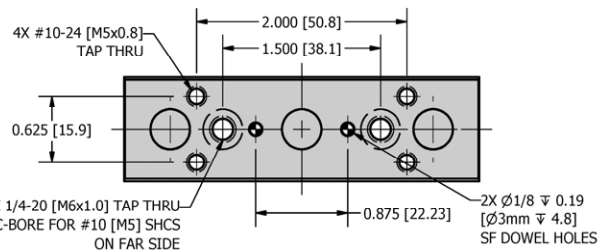


SPECIFICATIONS

	ET-2	MET-2
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	35.2 lbf	156.8 N
Unit Force Factor - Extend	0.44 lbf/psi	28.4 N/bar
Unit Force Factor - Retract	0.39 lbf/psi	25.2 N/bar
Base Weight	1.05 lb	0.48 kg
Additional Weight per Stroke	0.09 lb/in	1.63 g/mm
Cylinder Bore Diameter	0.750"	19.05 mm
Shaft Diameter	0.375"	9.52 mm

LOADING

	ET-2	MET-2
Typical Load (Force + Weight)*Stroke (F+W)*S	6 lbf-in	0.68 N-m
Max Moment M	6 lbf-in	0.68 N-m
Typical Dynamic Payload W	5 lbf	2.3 kg

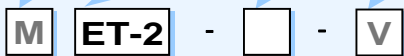


Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE SEALS



METRIC M

STROKE Inch: 1.0" - 8.0" @ 1.0" increments
mm: 25.4 - 203.2 @ 25.4mm increments

SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: ET-2-1.0-V

Ex) ET-2 Thruster with 1 inch stroke and Viton seals

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**

MAGNETIC SENSOR KITS * (Cylinder clamp mounted)

- CSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- CSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- CSK-R - Magnetic Sensor REED w/ quick disconnect Kit

* Sensors Kits include (2) sensors and (2) cylinder clamps and (2) 5 meter cables.

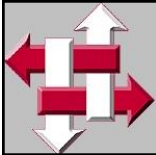
MAGNETIC SENSORS * (Cylinder clamp mounted)

- CS-N - Magnetic Sensor NPN w/ quick disconnect
- CS-P - Magnetic Sensor PNP w/ quick disconnect
- CS-R - Magnetic Sensor REED w/ quick disconnect

* Includes (1) sensors and (1) cylinder clamp

SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

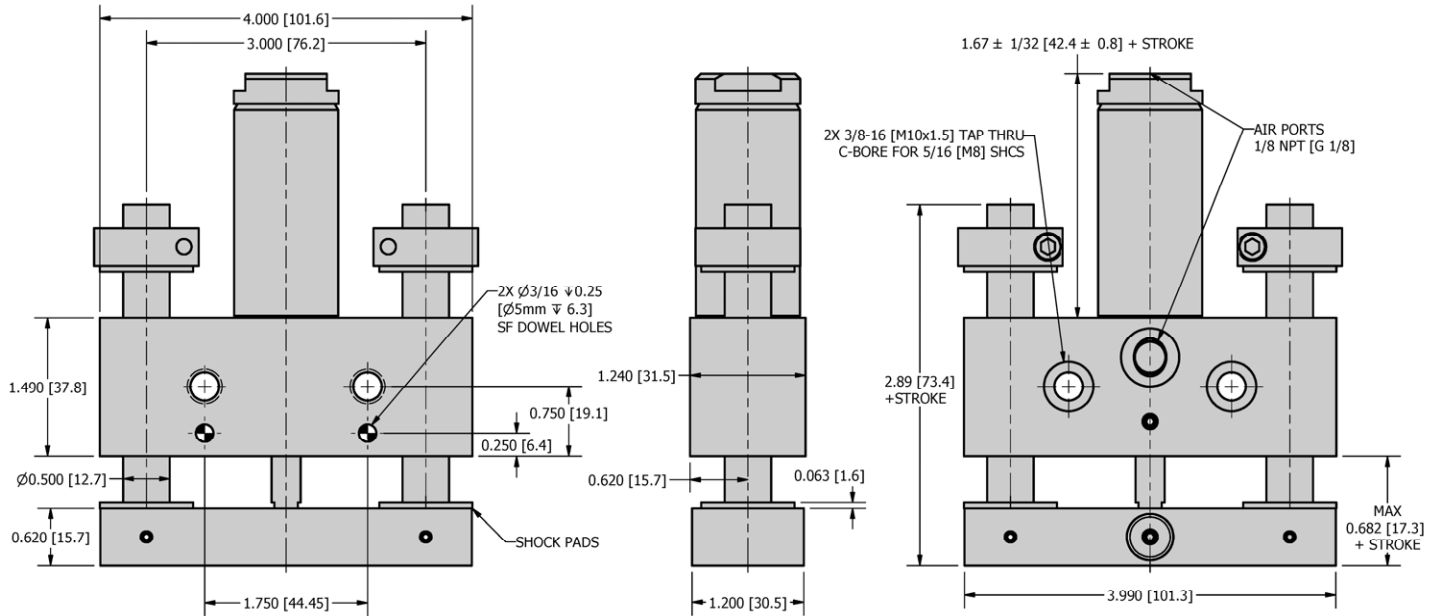


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DURA-THRUST
VERTICAL - LIGHT DUTY HORIZONTAL
LINEAR THRUSTER

ET-3

DIMENSIONAL DRAWING

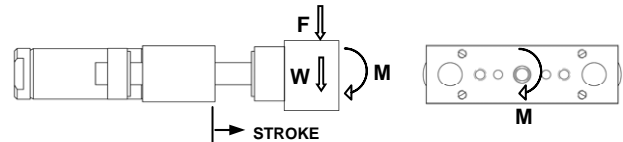
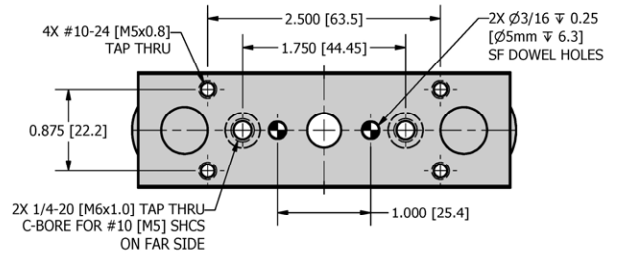


SPECIFICATIONS

	ET-3	MET-3
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	70.4 lbf	311.9 N
Unit Force Factor - Extend	0.88 lbf/psi	56.7 N/bar
Unit Force Factor - Retract	0.81 lbf/psi	52.3 N/bar
Base Weight	1.68 lb	0.76 kg
Additional Weight per Stroke	0.16 lb/in	2.9 g/mm
Cylinder Bore Diameter	1.062"	27 mm
Shaft Diameter	0.500"	12.7 mm

LOADING

	ET-3	MET-3
Typical Load (Force + Weight)*Stroke (F+W)*S	8 lbf-in	0.9 N-m
Max Moment M	8 lbf-in	0.9 N-m
Typical Dynamic Payload W	10 lbf	4.5 kg



Flow controls recommended for nearly all applications

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC **BASIC MODEL** **STROKE** **SEALS**
M **ET-3** - -

METRIC M

STROKE Inch: 1.0" - 10.0" @ 1.0" increments
 mm: 25.4 - 254.0 @ 25.4mm increments

SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: ET-3-2.0-V

Ex) ET-3 Thruster with 2 inch stroke and Viton seals

**CUSTOM DESIGNS ALWAYS AVAILABLE
 PLEASE CONTACT US FOR INFORMATION**

MAGNETIC SENSOR KITS * (Cylinder clamp mounted)

- CSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- CSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- CSK-R - Magnetic Sensor REED w/ quick disconnect Kit

* Sensors Kits include (2) sensors and (2) cylinder clamps and (2) 5 meter cables.

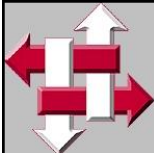
MAGNETIC SENSORS * (Cylinder clamp mounted)

- CS-N - Magnetic Sensor NPN w/ quick disconnect
- CS-P - Magnetic Sensor PNP w/ quick disconnect
- CS-R - Magnetic Sensor REED w/ quick disconnect

* Includes (1) sensors and (1) cylinder clamp

SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

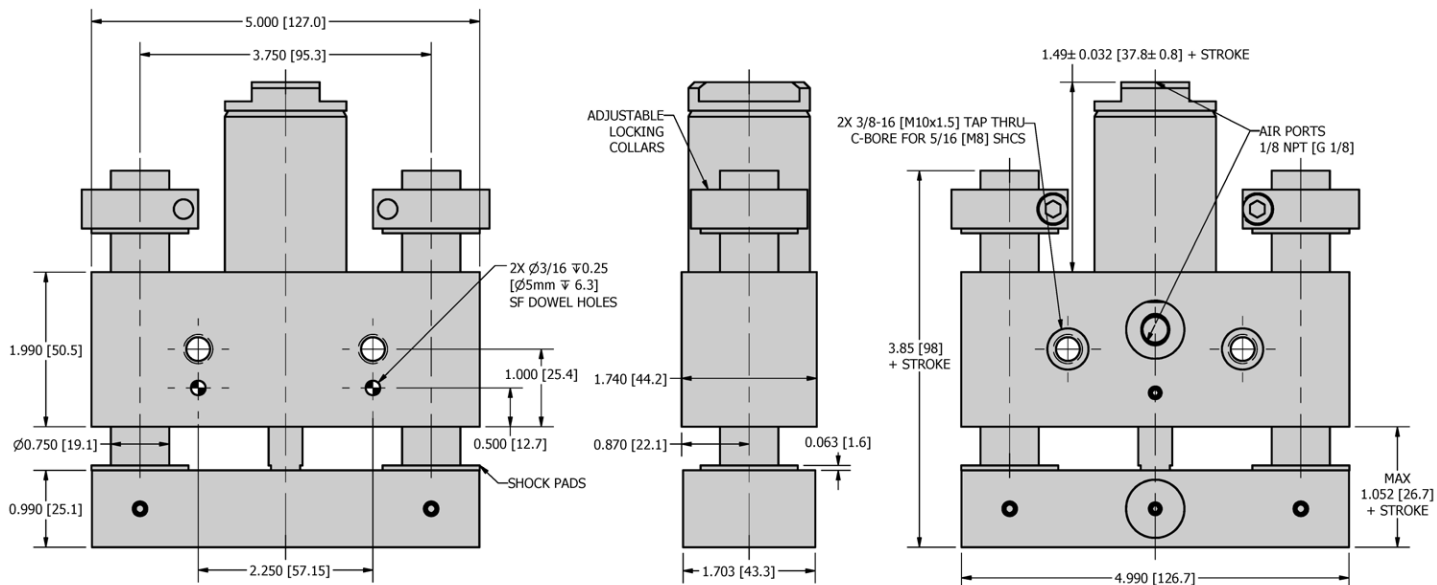


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DURA-THRUST
VERTICAL - LIGHT DUTY HORIZONTAL
LINEAR THRUSTER

ET-4

DIMENSIONAL DRAWING



SPECIFICATIONS

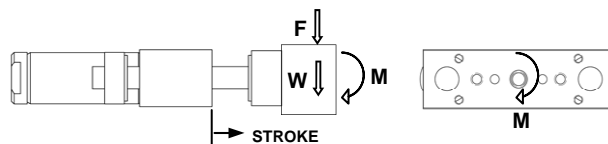
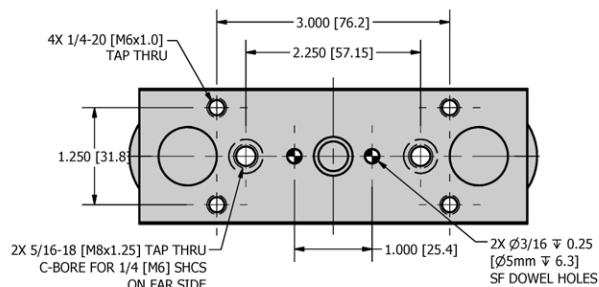
	ET-4	MET-4
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80 psi / 5.5 bar	140.8 lbf	624.3 N
Unit Force Factor - Extend	1.76 lbf/psi	113.5 N/bar
Unit Force Factor - Retract	1.61 lbf/psi	103.9 N/bar
Base Weight	4.07 lb	1.85 kg
Additional Weight per Stroke	0.33 lb/in	5.92 g/mm
Cylinder Bore Diameter	1.500"	38.1 mm
Shaft Diameter	0.750"	19.05 mm

LOADING

	ET-4	MET-4
Typical Load (Force + Weight)*Stroke (F+W)*S	15 lbf-in	1.69 N-m
Max Moment M	15 lbf-in	1.69 N-m
Typical Dynamic Payload W	25 lbf	9.1 kg



Flow controls recommended for nearly all applications



HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL STROKE SEALS

M **ET-4** - - **V**

METRIC M

STROKE Inch: 1.0" - 12.0" @ 1.0" increments
mm: 25.4 - 304.8 @ 25.4mm increments

SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: ET-4-1.0

Ex) ET-4 Thruster with 1 inch stroke

**CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION**

MAGNETIC SENSOR KITS * (Cylinder clamp mounted)

- CSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- CSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- CSK-R - Magnetic Sensor REED w/ quick disconnect Kit

* Sensors Kits include (2) sensors and (2) cylinder clamps and (2) 5 meter cables.

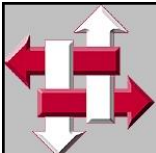
MAGNETIC SENSORS * (Cylinder clamp mounted)

- CS-N - Magnetic Sensor NPN w/ quick disconnect
- CS-P - Magnetic Sensor PNP w/ quick disconnect
- CS-R - Magnetic Sensor REED w/ quick disconnect

* Includes (1) sensors and (1) cylinder clamp

SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length



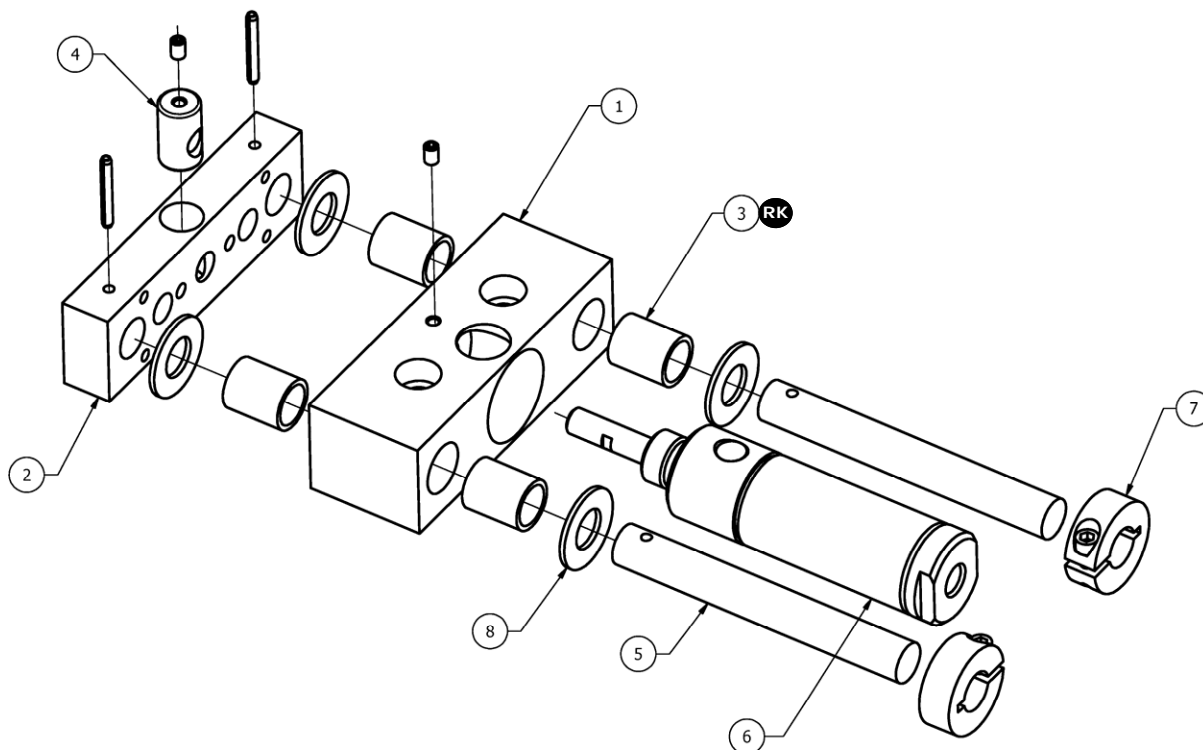
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DURA-THRUST
VERTICAL - LIGHT DUTY HORIZONTAL
LINEAR THRUSTER



ET-SERIES

EXPLODED VIEW



PARTS LIST

HOW TO ORDER PARTS

ITEM	REQ'D	NAME	ET-1	ET-2	ET-3	ET-4	OPTIONS
1	1	Main Body	ET-101	ET-201	ET-301	ET-401	
2	1	End Block	ET-102	ET-202	ET-302	ET-402	
3	4	Bushing *	ET-103	ET-203	ET-303	ET-403	
4	1	Connector	ET-104	ET-204	ET-304	ET-404	
5	2	Rod	ET-105	ET-205	ET-305	ET-405	-S ¹
6	1	Air Cylinder	ET-106	ET-206	ET-306	ET-406	-S ¹ -V ²
7	2	Locking Collar *	XLC-0250	XLC-0375	XLC-0500	XLC-0750	
8	4	Shock Pad *	XSP-0250	XSP-0375	XSP-0500	XSP-0750	
RK	1	Repair Kit **	ET-1-RK	ET-2-RK	ET-3-RK	ET-4-RK	

METRIC

PART NUMBER

M

[] - []

OPTIONS

SAMPLE ORDER: ET-105-2.0

Ex) ET-1 Rod with 2 inch stroke

OPTIONS (see product pages for information)

1 - S = Stroke

2 - V = Viton Seals

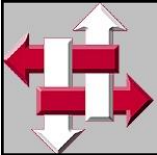
NOTES

* - Metric code not required

- Repair Kits include req'd qty of parts marked with RK

FOR MORE INFORMATION CALL US AT 1-800-588-0174 OR 860-589-6364 FAX: 860-589-6235

VISIT US AT www.RIMFG.com



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TECH NOTES

