BALDOR

Dual Axis Linear Motors
HoneyComb Series

Dual Axis Linear Motors

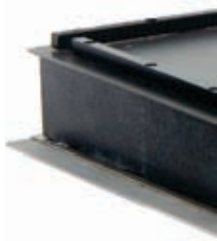
Baldor provides industry with the widest selection of linear motors and stages for application solutions. The use of linear technology yields higher machine productivity than other motor technologies due to their extremely rapid positioning capability.

Baldor has engineered a new, unique, lower cost, Dual Axis linear base with stepper motor to provide exceptional durability and reliability for hundreds of millions of cycles. Direct coupling to the load greatly improves a machine's accuracy.

Dual Axis linear stepper motors provide up to 134 N (30 lbs) of static force. Additionally the design incorporates a high attractive force up to 1780 N (400 lbs) to allow face up or inverted mounting providing for versatility and flexibility for applications.

The robust mechanical design of the new Dual Axis base or "platen" is available in standard sizes and provides durability and reliability for hundreds of millions of cycles.

Linear motors have an immediate impact in reducing maintenance cost, improving machine productivity, while maximizing plant and machine operation. Contact Baldor with your needs.



Two Axis of Linear Motion in a Single Plane

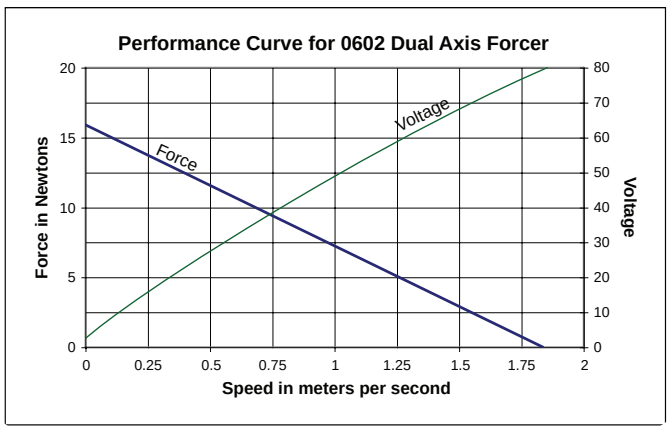
- **Multiple motors with overlapping trajectories**
  - easy installation
- **Lighter weight designs**
  - 70% lighter than comparable models
- **Extreme flatness**
  - less than 14 microns/300mm (0.0005 in/ft)
- **Long term reliability**
  - no wear problems and reduced maintenance
- **High resolution**
  - to 2.5µm (0.0002 in)
- **Excellent repeatability**
  - better than 2µm (0.0001 in)
- **High speed capability**
  - up to 1.5 m/s (60 in/s)

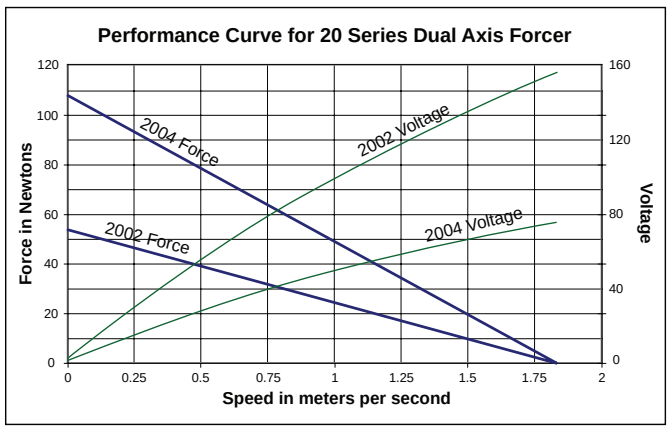
Typical Applications

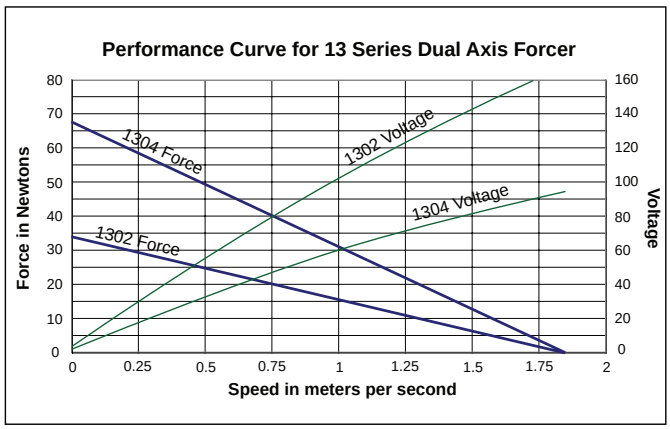
- Pick & Place Systems
- Electronic and Communication Equipment Assembly
- Material Handling
- Visual Inspection
- Part assembly/Insertion
- 3-D Prototyping
- Semiconductor Manufacturing
- Packaging
- Biomed

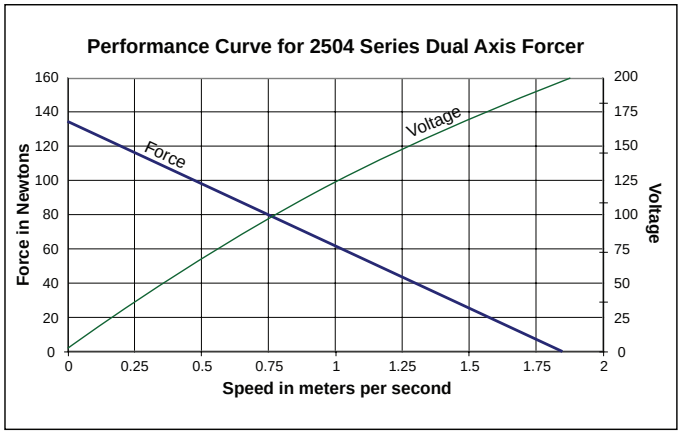
Dual Axis Motor
Performance Curves

Baldor's linear products represents the best long-term value and investment to maximize plant and machine operation, throughput and productivity.









Technical Data

2-phase Dual Axis Forcers

Catalog Number	No. of phases (1)	Static Force		Force @ 1 m/s		Inductance (Coil)	Resistance/ Phase	Amps/ Phase	Weight		Air Bearing Requirement		Attractive Force		Forcer Size (mm)	
		N	Lbs	N	Lbs	mH	ohms	Amps	kg	Lbs	L/min	CFM	N	Lbs	A	Height
LMDS0602-2A0	2	15	3.3	7	1.5	3.3	3.1	2	0.36	0.8	6	0.20	160	36	80	28
LMDS1302-2A0	2	33	7.4	15	3.4	5.2	4.2	2	0.50	1.1	8	0.27	400	90	96	30
LMDS2002-2A0	2(1)	54	12.1	25	5.5	1.7	1.7	2	0.73	1.6	12	0.42	710	160	120	30
LMDS1304-2A0	2(1)	67	15.0	30	6.8	2.9	2.2	4	1.45	3.2	18	0.64	890	200	149	30
LMDS2004-2A0	2(1)	110	24.5	48	10.8	3.3	3.2	4	2.05	4.5	22	0.78	1420	320	165	30
LMDS2504-2A0	2(1)	134	30.0	60	13.5	4.4	3.8	4	2.32	5.1	25	0.90	1780	400	178	37

NOTES:

(1) Four phase is available with the same force ratings and physical size. Typically, a 4-phase motor has twice the resolution as a 2-phase. The maximum 4-phase resolution is about ±2 µm.

› Bi-directional repeatability = ±5 µm (±0.0002 in). Unidirectional repeatability better than +/-2.5 mm (+/- .0001 inch).

› Resolution = 2.5 µm (0.0002 in), Cyclic error = ±5 µm (±0.0002 in) independent on drive electronics and system implementation

› Standard Pitch 1.016 mm (0.04 in), Optional Pitch 0.508 mm (0.02 in)

› Air Bearing Airgap = 20 µm (0.0008 in), Air Pressure= 4-5.5 bar (60-80 psi) with a 5 micron filter.

› All specifications are for reference only.

Dual Axis Platen

The new *Dual Axis* series of bases (platens) are avaliable in standard designs to provide the best lower cost solutions for application needs. Additionally it is RoHS compliant and comes in standardized core sizes which provide advancements in delivery times

Baldor's Dual Axis linear products have been designed to provide exceptional value in a high quality solidly built durable design delivering improved performance in the application. It is noteworthy that the Dual Axis has been designed in standard packages providing for improved delivery and cost reduced to maximize your machine / equipment marketability.

Sturdy three point or optional four corner mounting
for ease in installation

Face up or inverted mounting without additional structural support
provides for application versatility

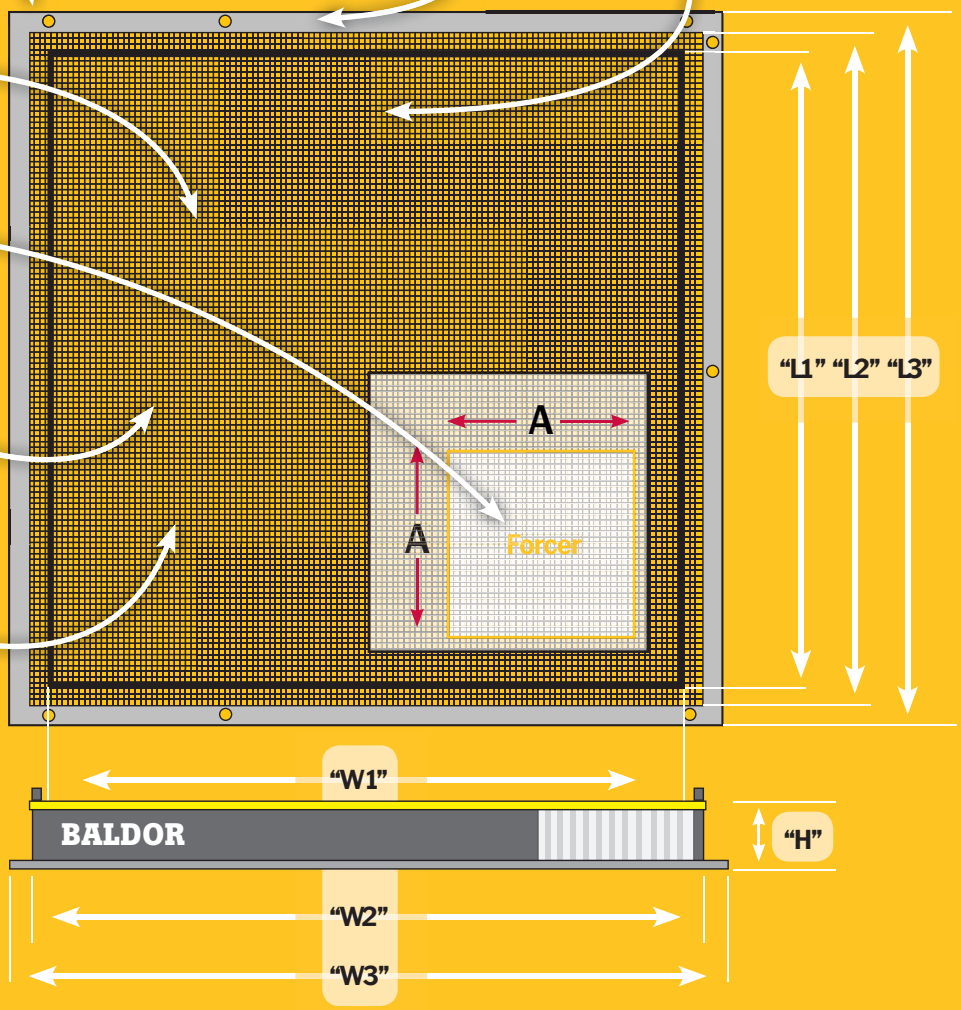
Extremely stiff design
compared to previous models deflection factor is reduced by 60-80% even when self supporting

Accurate Movements
Flatness to less than 14 microns/300mm (0.0005 in/ft)

Mutiple Forcers (motors) with overlapping trajectories
provides for flexibility

Lower Weight
70% on small platens to 80% on larger units compared to previous designs

New Composite construction maximizes strength & stiffness
provides robustness in the application



Dimensions

Catalog Number		LTDS-EH-S	LTDS-SH-S	LTDST1-S	LTDS-TH-S	LTDS-HH-S	LTDS-FH-S	LTDS-DH-S
Usable Width "W1"	mm	375	375	500	750	750	750	750
	inch	14.8	14.8	19.7	29.5	29.5	29.5	29.5
Usable Length "L1"	mm	375	500	750	750	1000	1125	1500
	inch	14.8	19.7	29.5	29.5	39.4	44.3	59.0
Width "W2"	mm	410	410	535	785	785	785	785
	inch	16.1	16.1	21.1	30.9	30.9	30.9	30.9
Length "L2"	mm	410	535	785	785	1035	1160	1535
	inch	16.1	21.1	30.9	30.9	40.7	45.7	60.4
Overall Width "W3"	mm	445	445	570	820	820	820	820
	inch	17.5	17.5	22.4	32.3	32.3	32.3	32.3
Overall Length "L3"	mm	445	570	820	820	1070	1195	1570
	inch	17.5	22.4	32.3	32.3	42.1	47.0	61.8
Height	mm	28.4	28.4	28.4	28.4	28.4	46.2	46.2
	inch	1.1	1.1	1.1	1.1	1.1	1.8	1.8
Total Platen mass / weight	Kilo	9.5	12.2	22.2	31.7	41.2	47.1	61.8
	Lbs	21.0	26.8	48.9	69.9	90.9	104.0	136.3

Notes (1) Add 8mm/0.315" to top of bumper. (2) RoHS compliant. (3) Flatness: top: 12.7 microns/305mm (+/-0.0005 inch/foot typical). (4) Parallelism of top to bottom: 0.50 mm typical. (5) Custom platens available on request.

To select the Dual Axis model for your application, first determine operating speed and force for selection of the appropriate stepper motor (forcer). Then determine travel or stroke and select the appropriate base (platen). Select catalog numbers from this brochure. Contact your local Baldor office for application assistance and customs.

Forcer (motor)

LMDS X X X X - X A X

- Stack Width Code
- Stack Size
- Termination
  0 = 24 inch flying leads
- Air Bearings
- No. of Phases
  2 or 4

Platen (base)

LTDS - X X - X

- Features
  S = Standard
  C = Custom
- Base Code
  H = HoneyComb
  S = Steel
- Size
  D = Double
  L = Long
  F = Full
  H = Half
  T = 3/4
  S = 1/6
  E = 1/8

BALDOR

The worldwide market for industrial equipment continues to grow in both localized and export opportunities. And it's a fact that designers and builders who differentiate their products through technology leadership are enjoying growth and gaining market share. Baldor's Dual Axis linear products are a robust design to handle rugged industrial applications; designed to provide reliability over the millions of operating cycles; and designed to provide high accuracy throughout the product life.

A selected list of other Baldor Product Catalogs:

BR1202-A Motion Control Solutions

BR1202-C NextMove Multi-Axis Motion Controllers

BR1202-G Linear Motors and Stages

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