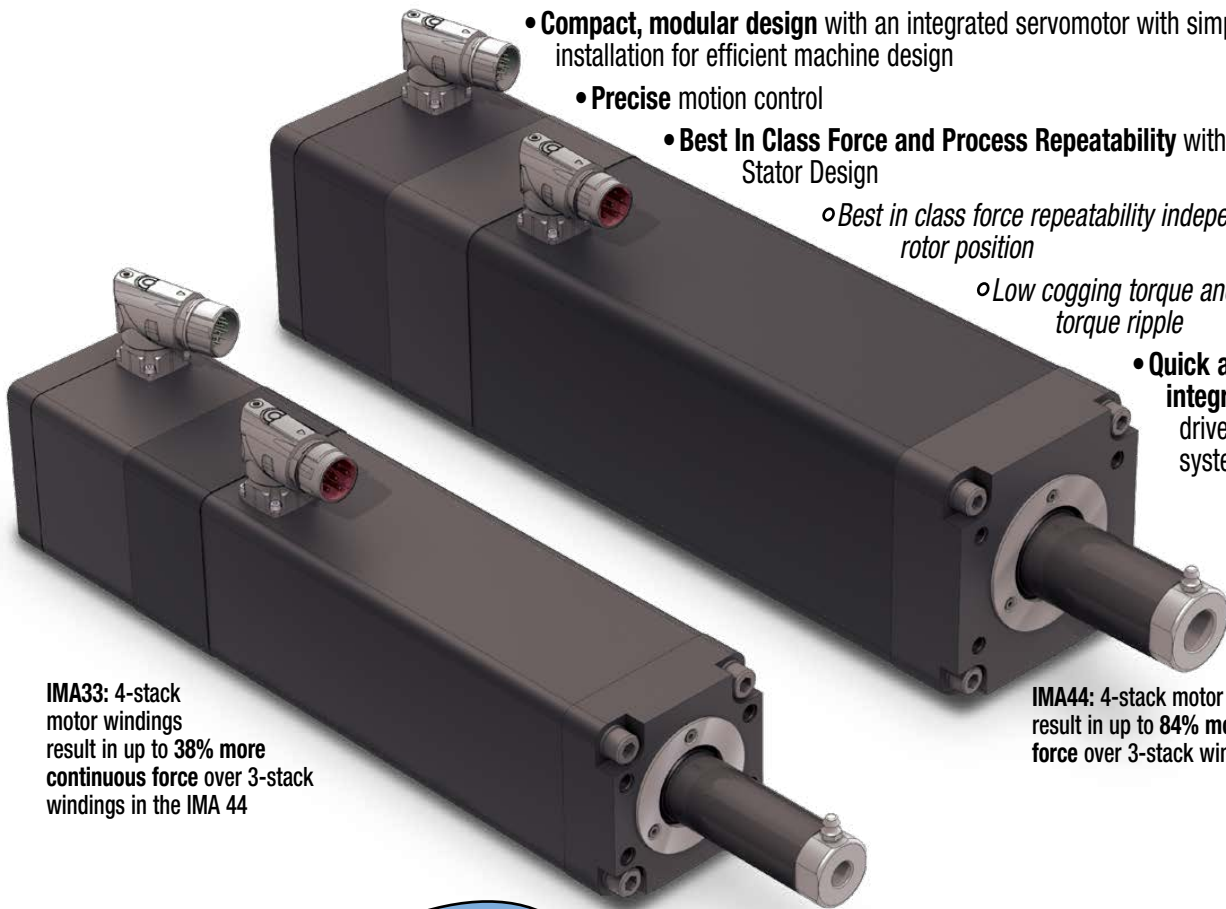


IMA ACTUATORS WITH 2 & 4 STACK MOTORS FOR MAXIMUM CONTINUOUS FORCE

The IMA Integrated Servo Actuator product offering now includes 2 and 4-stack motors in addition to the standard 1 and 3-stack motor offerings.

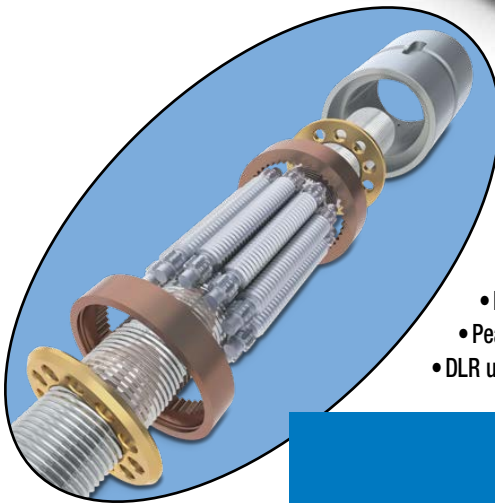
IMA Servo Integrated Actuator benefits include:

- **Compact, modular design** with an integrated servomotor with simple installation for efficient machine design
- **Precise motion control**
- **Best In Class Force and Process Repeatability** with Skewed Stator Design
 - *Best in class force repeatability independent of rotor position*
 - *Low cogging torque and reduced torque ripple*
- **Quick and easy integration** with drive and control systems



IMA33: 4-stack motor windings result in up to **38% more continuous force** over 3-stack windings in the IMA 44

IMA44: 4-stack motor windings result in up to **84% more continuous force** over 3-stack windings



IMA Integrated Linear Servo Actuators with Tolomatic Roller Screws for Long, Reliable Life

Pre-loaded roller screws benefits:

- Dynamic applications (high frequency)

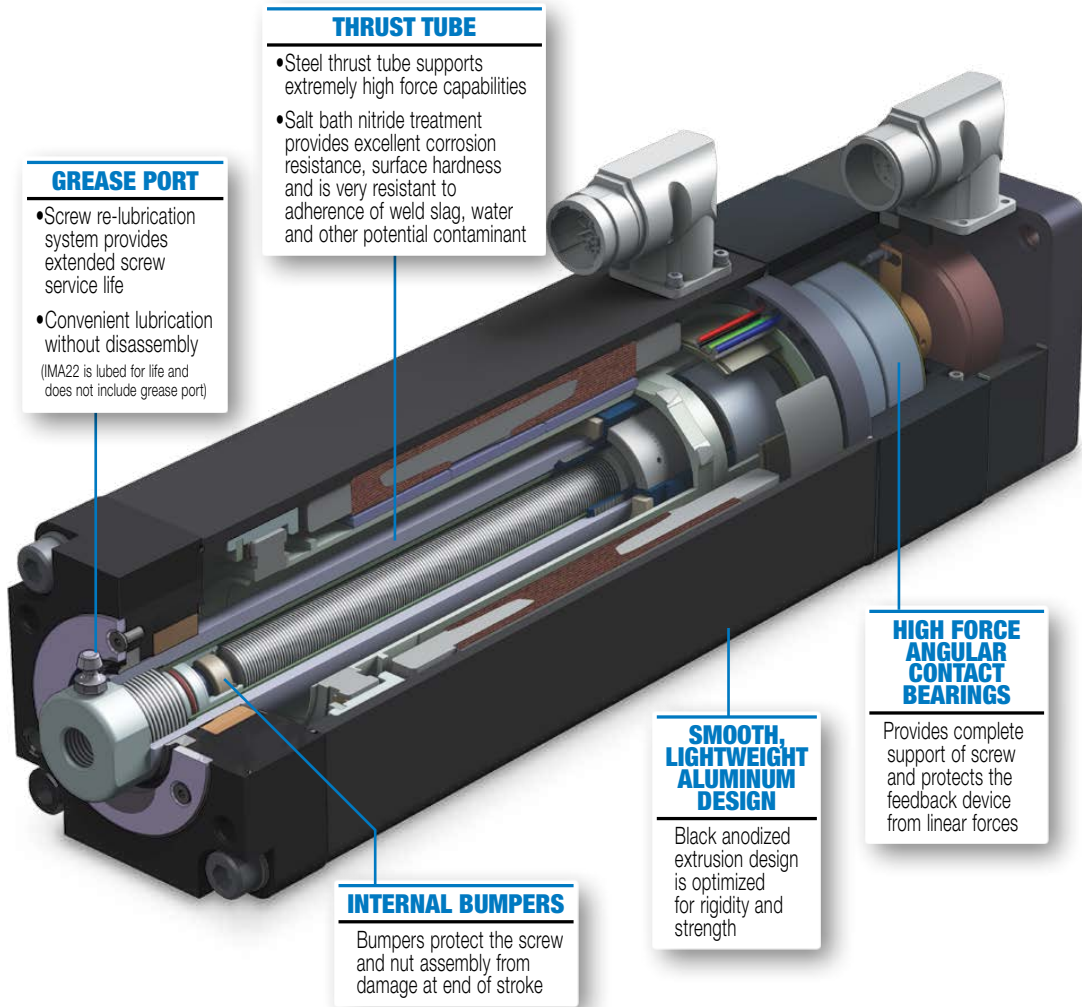
Increased peak force and DLR with XR Roller Screw design

- Longer rollers for increased capability
- Peak force up to 5400 lbf (24kN)
- DLR up to 20,624 lbf (92 kN)

IMA - Linear Actuator with Integrated 2-4 Stack Servo Motor

ENDURANCE TECHNOLOGYSM ...MAXIMUM DURABILITY

A Tolomatic Design Principle



THRUST TUBE

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

GREASE PORT

- Screw re-lubrication system provides extended screw service life
- Convenient lubrication without disassembly (IMA22 is lubed for life and does not include grease port)

INTERNAL BUMPERS

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

SMOOTH, LIGHTWEIGHT ALUMINUM DESIGN

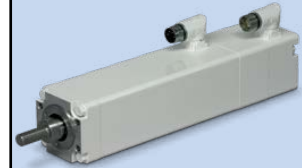
Black anodized extrusion design is optimized for rigidity and strength

HIGH FORCE ANGULAR CONTACT BEARINGS

Provides complete support of screw and protects the feedback device from linear forces

EXTENDED CATALOG OPTIONS:
Proven designs Tolomatic has delivered to customers. Consult Tolomatic for pricing and availability.

MODIFICATIONS



- Food Grade Modification



- Custom Connector



- Internal Anti-Rotate



- Manual Override



- Custom Mounting



- Integrated Cables

STANDARD MOUNTING



- Front Face



- Bottom Mounting Holes

OPTIONS

MOUNTING



- Mounting Plates



- Rear Clevis



- Front Flange



- Trunnion, Rear or Front



- Side Mount

ROD END

- Internal Thread - Standard



- External Threads



- Clevis



- Spherical Eye



- Alignment Coupler

BRAKE



- 24V Spring held / electronically released

IP67

- For protection against water and dust ingress

CABLES



- Signal Cable (5 & 10m)
- Power Cable (5 & 10m)

ARO

- Anti-Rotate



DISCOVER THE IMA-S STAINLESS STEEL DESIGN

The best integrated hygienic actuator available!
CLICK HERE!

IMA - Linear Actuator with Integrated 2-4 Stack Servo Motor

Performance & Mechanical Specifications:

Series	Motor Stack ¹	Nut/ Screw	Screw Lead	Cont. Thrust	Peak Thrust	Dynamic Load Rating	Max. Velocity	Base Inertia ²	
									mm
IMA33	4	BN05	5	4.5	4.5	8.7	350	5.83	
		BN10	10	2.8	4.0	5.4	700	5.83	
		BN20	20	1.4	3.0	11.4	1,333	5.94	
		RN04	4	6.6	11.1	41.1	280	5.83	
		RN05	5	5.3	12.6	45.4	350	5.83	
		RN10	10	2.6	10.2	45.4	700	5.83	
IMA44	2	BN05	5	5.5	10.4	18.0	292	7.96	
		BN10	10	2.8	8.3	15.0	583	7.96	
		BN25	25	1.1	3.3	11.3	1,333	7.96	
		RN04	4	6.4	18.5	56.5	233	7.89	
		RN05	5	5.1	15.3	56.5	292	7.89	
		RN10	10	2.6	7.7	56.5	583	7.89	
	3	RN05XR	5	7.3	22.0	56.5	292	9.60	
		4	BN05	5	10.4	10.4	18.0	333	11.84
			BN10	10	7.3	11.0	15.0	667	11.84
			BN25	25	2.9	8.8	11.3	1,333	11.84
			RN04	4	16.9	18.5	56.5	267	11.76
			RN05	5	13.6	17.1	56.5	333	11.76
RN10	10		6.8	17.8	56.5	667	11.76		
		RN05XR	5	13.6	24.0	56.5	333	11.76	

Metric measurements

Series	Motor Stack ¹	Nut/ Screw	Screw Lead	Cont. Thrust	Peak Thrust	Dynamic Load Rating	Max. Velocity	Base Inertia ²	
									in
IMA33	4	BN05	0.197	1,000	1,000	1,960	13.8	1.99	
		BN10	0.394	640	899	1,215	27.6	1.99	
		BN20	0.788	320	674	2,560	52.5	2.03	
		RN04	0.157	1,475	2,500	9,240	11.0	1.99	
		RN05	0.197	1,180	2,838	10,210	13.8	1.99	
		RN10	0.394	590	2,290	10,210	27.6	1.99	
IMA44	2	BN05	0.197	1,245	2,345	4,035	11.5	2.72	
		BN10	0.394	625	1,865	3,370	23.0	2.72	
		BN25	0.985	250	745	2,540	52.5	2.72	
		RN04	0.157	1,440	4,150	12,705	9.2	2.69	
		RN05	0.197	1,150	3,450	12,705	11.5	2.69	
		RN10	0.394	575	1,725	12,705	23.0	2.69	
	3	RN05XR	0.197	1,650	4,950	12,705	11.5	3.28	
		4	BN05	0.197	2,345	2,345	4,035	13.1	4.05
			BN10	0.394	1,645	2,470	3,370	26.2	4.05
			BN25	0.985	660	1,975	2,540	52.5	4.05
			RN04	0.157	3,810	4,150	12,705	10.5	4.02
			RN05	0.197	3,045	3,850	12,705	13.1	4.02
RN10	0.394		1,525	4,000	12,705	26.2	4.02		
		RN05XR	0.197	3,045	5,400	12,705	13.1	4.02	

US Conventional measurements

Motor Specifications:

		IMA33		IMA44			
		MV24	MV44	MV22	MV42	MV24	MV44
Winding/Motor Voltage	N-m/A Peak	0.64	1.28	0.52	0.9	0.64	1.29
	in-lb/A Peak	5.7	11.4	4.6	8.0	5.7	11.4
Torque Constant (kt)							
	V/Krpm Peak	78	155	66	107	81	162
Voltage Constant (ke)							
	N-m	5.6	5.6	5.5	4.9	14.6	14.6
Continuous Stall Torque	in-lb	50.0	50.0	48.8	43.0	129.0	129.0
	ARMS	7.2	3.6	7.5	3.8	16.0	8.0
Continuous Stall Current							
	N-m	21.9	21.9	16.5	14.6	43.7	43.7
Peak Torque	in-lb	194	194	146	129	387	387
	ARMS	29.0	14.5	22.5	11.4	48.0	24.0
Peak Current							
Resistance	Ohms	1.14	4.56	0.90	4.20	0.35	1.46
Inductance	mH	2.42	9.82	3.65	15.70	2.04	8.90
Bus Voltage	VRMS	230	460	230	460	230	460
Speed @ Rated V	RPM	4,200		3,500		4,000	
Number of Poles		8					



Performance data was validated using an aluminum face mount plate:

IMA33 (8.25" x 7.0" x 0.7");

IMA44 (9.0" x 9.0" x 0.7");

Ambient Temp. = 77°F (25°C);

Elevation < 3281' (1,000 m);

Drive specifications: Sinusoidal Commutation and PWM Voltage Source

¹2 = 2 Stack winding MV22 or MV42

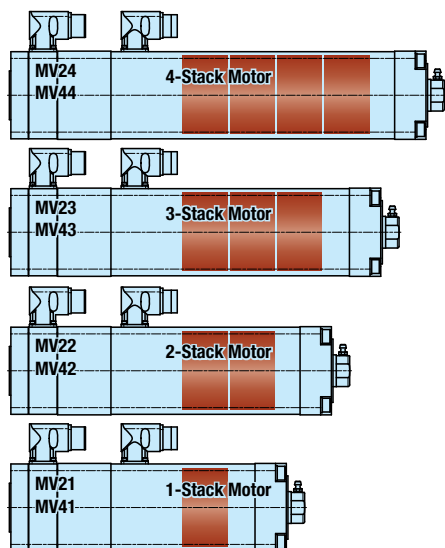
¹3 = 3 Stack winding MV23 or MV43

¹4 = 4 Stack winding MV24 or MV44

²Value given is for a zero stroke actuator

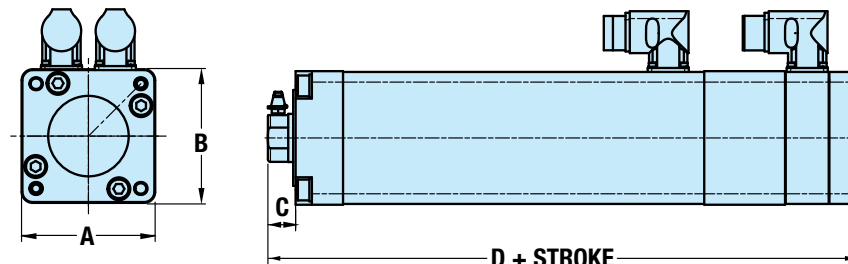
NOTE: In all vertical application an unpowered IMA will require a brake to maintain position. Tolomatic recommends that the nominal back drive force specification be used for reference only. Back drive force is subject to change throughout the life of the actuator, due to mechanical break in, ambient temperature, and duty cycle variation.

IMA - Linear Actuator with Integrated 1-4 Stack Servo Motor



- 4 – STACK (MINIMUM 7.5" STROKE)
- 3 – STACK (MINIMUM 6" STROKE)
- 2 – STACK (MINIMUM 4.5" STROKE)
- 1 – STACK (MINIMUM 3" STROKE)

Dimensions



	IMA33	IMA44
A	83.6	110.5
B	83.6	110.5
C	17.3	16.8
D 1 Stack	155.5	NA
D 2 Stack	NA	243.8
D 3 Stack	231.7	281.9
D 4 Stack	269.8	320.0
D 1 Stack w/ Brake	196.9	NA
D 2 Stack w/ Brake	NA	279.3
*D 3 Stack w/ Brake	273.1	317.4
*D 4 Stack w/ Brake	311.2	355.5

Dimensions in millimeters

*Overall length reduction is possible depending on application, contact Tolomatic

	IMA33	IMA44
A	3.29	4.35
B	3.29	4.35
C	0.68	0.66
D 1 Stack	6.12	NA
D 2 Stack	NA	9.60
D 3 Stack	9.12	11.10
D 4 Stack	10.62	12.60
D 1 Stack w/ Brake	7.75	NA
D 2 Stack w/ Brake	NA	11.00
*D 3 Stack w/ Brake	10.75	12.50
*D 4 Stack w/ Brake	12.15	13.90

Dimensions in inches

NA = Not Available

The Tolomatic Difference Expect More From the Industry Leader:



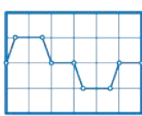
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= ISO 9001 =
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