



20DBM - High Power Linear actuator

- ✓ High power density
- ✓ Improved efficiency
- ✓ Precise linear motion
- ✓ Customizable

Our new 20DBM can stack linear actuator with optimized electromagnetic design delivers up to 80% higher force over existing designs. The 7.5 ° step angle provides finer incremental movements with a high degree of accuracy. Larger ball bearings and patent pending bearing pre-load design supports higher load capacity and repeatability. This compact, robust and powerful linear actuator is ideal for performance-critical applications in market segments such as Medical, Life Sciences, HVAC and Factory Automation.

OUTPUT AND PERFORMANCE

- Linear force up to 50N
- Linear resolution down to 0.0005" / Step
- Improved heat dissipation

KEY FEATURES

- High energy Neodymium magnet
- Optimized electromagnetic circuit
- Patent pending bearing preload design for zero rotor axial play
- Quick customization capability

Medical: Medical analyzers, XY tables



Life Sciences: Electronic pipettes

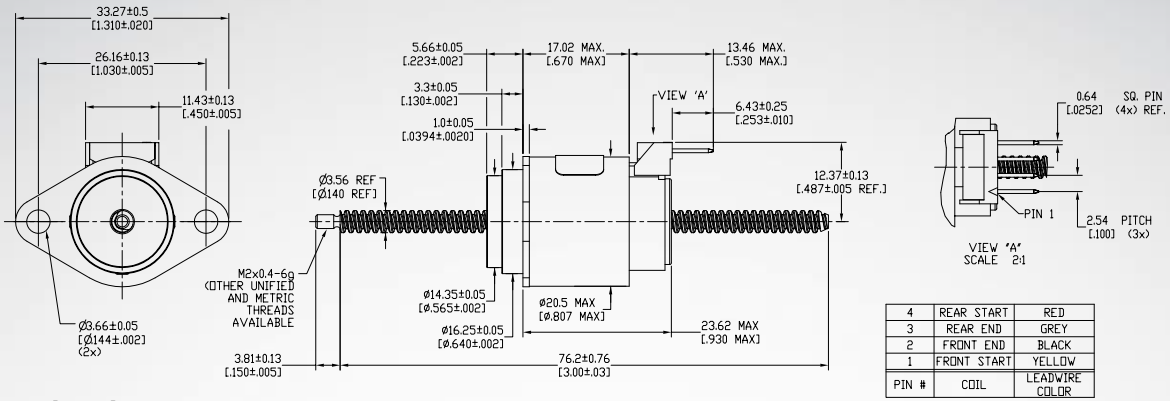


HVAC: Refrigeration and gas valves



Other: Stage lighting, electronic locks





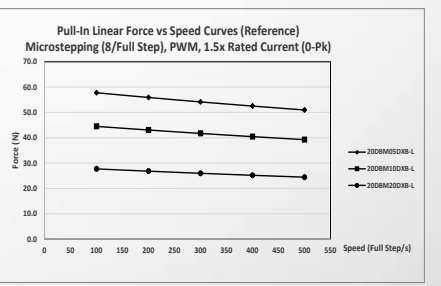
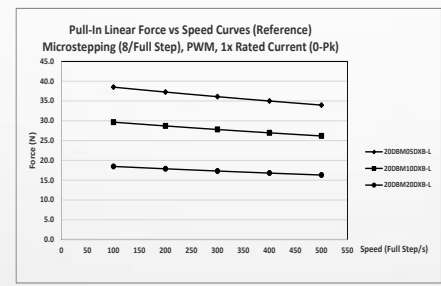
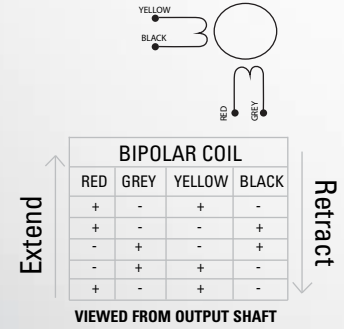
Dimensions in mm

20DBM-L

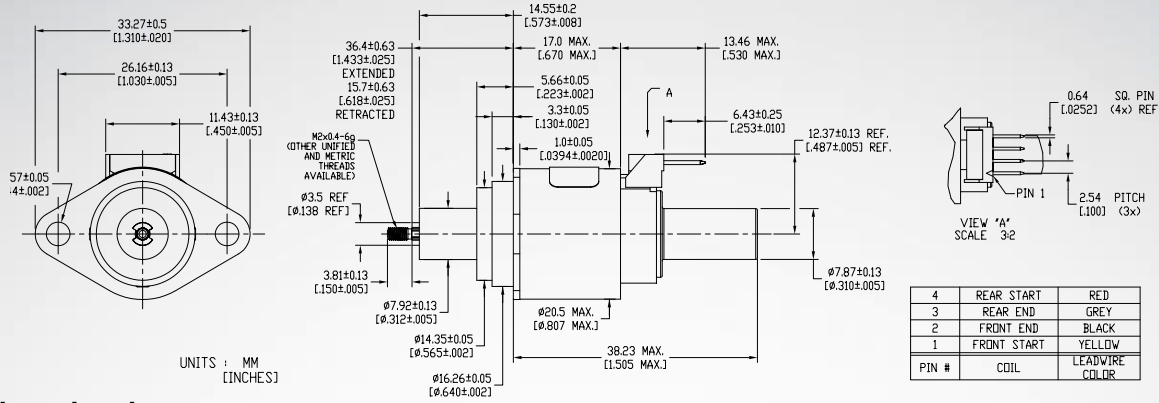
Electrical Data	20DBMXXD2B-L Bipolar	20DBMXXD1B-L Bipolar	20DBMXXD3B-L Bipolar	20DBMXXD4B-L Bipolar	
1 Rated Voltage #	12	5	2.9	1.4	VDC
2 Resistance per Phase, ± 10%	100.5	17.5	5.7	1.4	Ohms
3 Inductance per Phase, ± 20%	45.0	7.0	2.4	0.6	mH
4 Rated Current per Phase *	0.12	0.29	0.50	1.00	A
5 Input Power *	2.9	2.9	2.9	2.9	W

Coil independent parameters			
6	Max. Holding Force*	@ .0005" (0.0127mm)	50 (180) N (oz)
		@ .001" (0.0254mm)	35 (126) N (oz)
		@ .002" (0.0508mm)	22 (79) N (oz)
7	Min. Holding Force (Unenergized)	@ .0005" (0.0127mm)	55.6 (200) N (oz)
		@ .001" (0.0254mm)	13.9 (50) N (oz)
		@ .002" (0.0508mm)	5.5 (20) N (oz)
8	Maximum travel		50 (1.97) mm (in)
9	Step Angle		7.5 ± .5 Degree
10	Steps per Revolution		48
11	Pullout Rate @ Rated Current		600 PPS
12	Rotor Inertia		1.53 g.cm ²
13	Natural Resonance Frequency @ Rated Current		170 Hz
14	Ambient Temperature Range (operating)		-20 to +70 (-4 to +158) °C (°F)
15	Maximum Coil Temperature		130 (266) °C (°F)
16	Bearing Type ##		Ball Bearing
17	Insulation Resistance at 500 VDC		20 Mohms
18	Dielectric Withstanding Voltage		650 for 2 seconds VAC
19	Weight		35 (1.23) g (oz)

All Motor Data Values at 20°C Unless Otherwise Specified *Energize at Rated Current, 2 Phase On # Voltage in case of voltage driver (indicator of R*I) ## Options: 8 mm, 10 mm OD available. Preload on request.



Curves created with a 5 volt motor and a 24 volt power supply.



Dimensions in mm

20DBM-K

Electrical Data	20DBMXXD2B-K Bipolar	20DBMXXD1B-K Bipolar	20DBMXXD3B-K Bipolar	20DBMXXD4B-K Bipolar	
1 Rated Voltage #	12	5	2.9	1.4	VDC
2 Resistance per Phase, ± 10%	100.5	17.5	5.7	1.4	Ohms
3 Inductance per Phase, ± 20%	45.0	7.0	2.4	0.6	mH
4 Rated Current per Phase*	0.12	0.29	0.50	1.00	A
5 Input Power *	2.9	2.9	2.9	2.9	W

Coil independent parameters

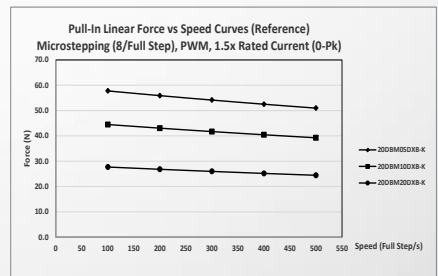
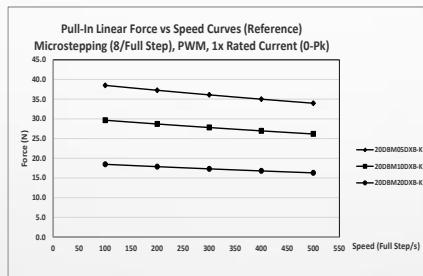
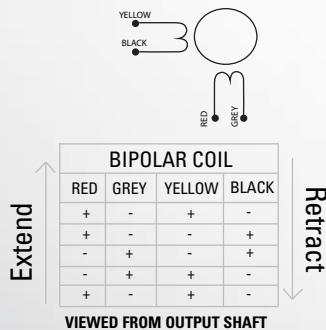
6 Max. Holding Force*	@ .0005" (0.0127mm)	50 (180)	N (oz)
	@ .001" (0.0254mm)	35 (126)	N (oz)
	@ .002" (0.0508mm)	22 (79)	N (oz)
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7 Min. Holding Force (Unenergized)	@ .001" (0.0254mm)	13.9 (50)	N (oz)
	@ .002" (0.0508mm)	5.5 (20)	N (oz)
8 Maximum travel		20 (0.79)	mm (in)
9 Step Angle		7.5 ± .5	Degree
10 Steps per Revolution		48	
11 Pullout Rate @ Rated Current		600	PPS
12 Rotor Inertia		1.53	g.cm2
13 Natural Resonance Frequency @ Rated Current		170	Hz
14 Ambient Temperature Range (operating)		-20 to +70 (-4 to +158)	°C (°F)
15 Maximum Coil Temperature		130 (266)	°C (°F)
16 Bearing Type ##		Ball Bearing	
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18 Dielectric Withstanding Voltage		650 for 2 seconds	VAC
19 Weight		35 (1.23)	g (oz)

All Motor Data Values at 20°C Unless Otherwise Specified

*Energize at Rated Current, 2 Phase On

Voltage in case of voltage driver (indicator of R*I)

Options: 8 mm, 10 mm OD available. Preload on request.



Curves created with a 5 volt motor and a 24 volt power supply.

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