



Super Stroke Solenoid

Description

The super stroke solenoid is a special implementation of the tubular solenoid design, modifications have been made to the geometry of the pole-piece and magnetic return path to produce a device which develops useful force over an exceptionally long stroke, with high efficiency, and with a flat force characteristic having many of the characteristics of a proportional solenoid allowing approximate position control over a large linear stroke.

The use of many of the components of the tubular solenoid range makes the super stroke solenoid a cost-effective solution compared to other long-stroke actuators or proportional solenoid designs.

The long stroke with flat force characteristic makes the super stroke solenoid a good replacement for small air cylinders in applications where a few linear actuators are needed, but where air supply is otherwise not required, machinery can be made independent of air supply with elimination of compressors, airline, and air preparation equipment and associated maintenance.

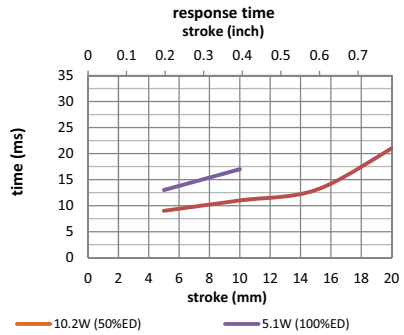
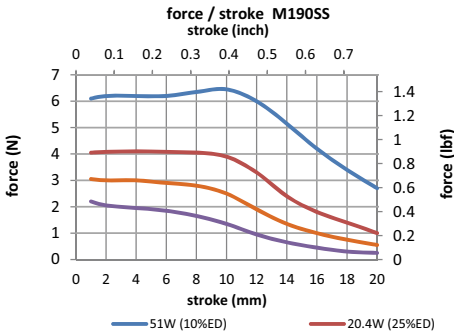
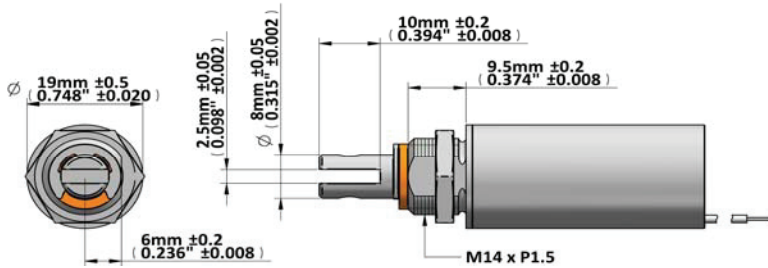
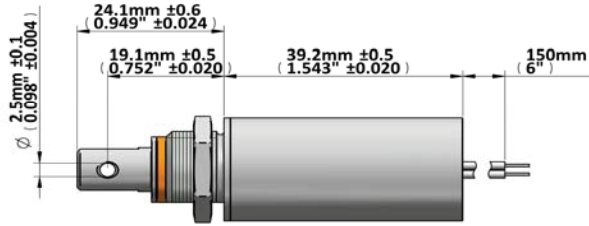
The super stroke solenoid allows approximate proportional control over a long linear stroke, the force is approximately proportional to applied current, and is uniform over the operating stroke. This characteristic can be used to control tension of wire, fibres, or web material, or can be applied against a spring to realise an actuation system where position can be controlled proportional to the applied current.



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Super Stroke Solenoid M190SS-XXv

Device drawn in energised condition
 Life Expectancy >2M cycles
 Leadwires UL1430, 22AWG
 Plunger Mass 20 grammes
 Mass 81 grammes



Data at 20°C, device performance measured without heat sink

duty cycle = $\frac{\text{"on" time}}{\text{"on" time} + \text{"off" time}} \times 100\%$		100% cont.	50% or less	25% or less	10% or less	
Max. "on" time in seconds		∞	180	20	5	
watts at 20°C		5.1	10.2	20.4	51	
ampere-turns at 20°		646	914	1292	2043	
AWG no.	resistance $\Omega \pm 10\%$ (at 20°C)	number of turns	volts DC			
M190SS-12v	30.9	1722	12.0	17.0	24.0	38.0
M190SS-24v	110	3060	24.0	34.0	48.0	76.0
M190SS-48v	435	6214	48.0	68.0	96.0	152.0
M190SS-96v	1815	12210	96.0	136.0	192	304

Insulation Resistance >100M Ω , 500VDC Megger
 Class E (120°C) insulation class

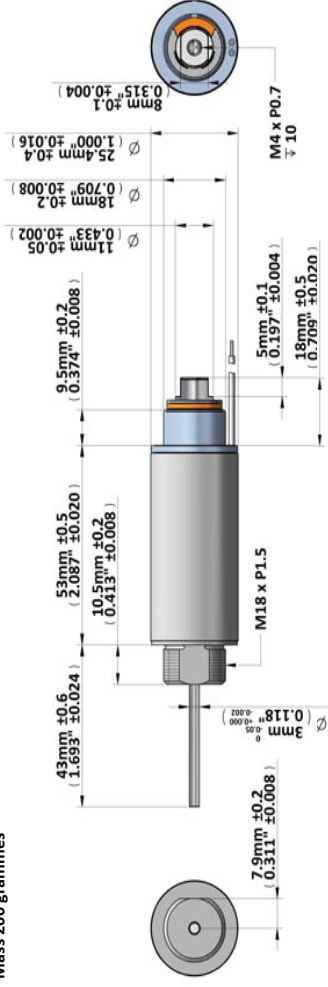
Dielectric Strength 1000VAC, 50/60Hz, 1 minute

Geeplus reserves the right to change specifications without notice



Super Stroke Solenoid M250SS-XXv

Device drawn in energised condition
 Life Expectancy >2M cycles
 Leadwires UL1430, 22AWG
 Plunger Mass 46 grammes
 Mass 200 grammes



Data at 20°C, device performance measured without heat sink

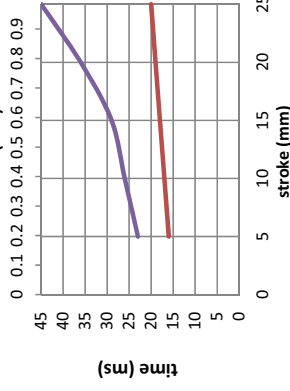
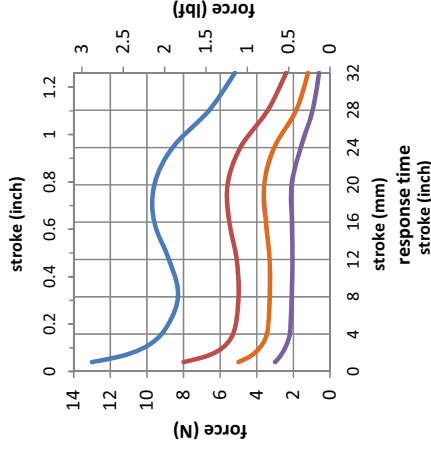
duty cycle = "on" time "on" time + "off" time x 100%	100% cont.	50% or less	25% or less	10% or less	volts DC	
					resistance $\Omega \pm 10\%$ (at 20°C)	number of turns
Max. "on" time in seconds	∞	290	26	6		
watts at 20°C	8.5	17	34	85		
ampere-turns at 20°	983	1390	1966	3109		
AWG no.						
M250SS-12v	17	1392	24.0	38.0		
M250SS-24v	66	34.0	48.0	76.0		
M250SS-48v	260	68.0	96.0	152.0		
M250SS-96v	1170	136.0	192	304		

Insulation Resistance >100M Ω , 500VDC Megger

Class E (120°C) insulation class

Dielectric Strength 1000VAC, 50/60Hz, 1 minute

force / stroke M250SS



85W (10%ED) 34W (25%ED) 17W (50%ED) 8.5W (100%ED)

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Super Stroke Solenoid M380SS-XXv

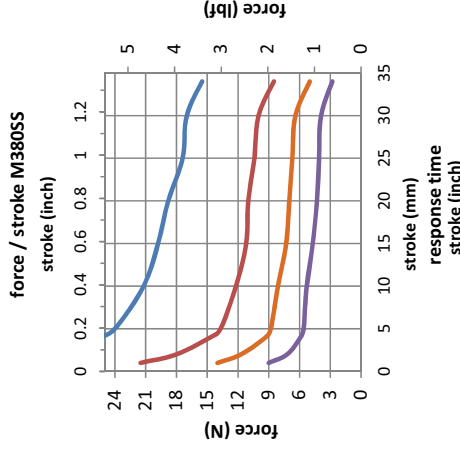
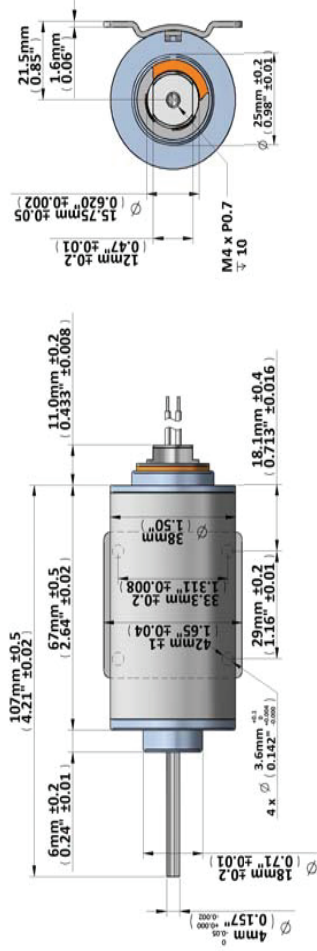
Device drawn in energised condition

Life Expectancy >2M cycles

Leadwires UL1430, 22AWG

Plunger Mass 91. grammes

Mass 535 grammes



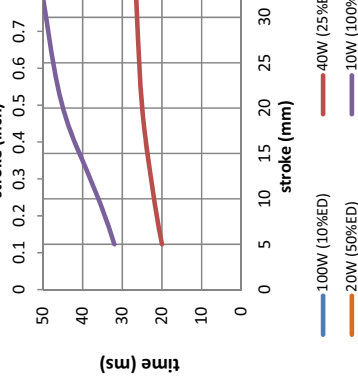
Data at 20°C, device performance measured without heat sink

AWG no.	resistance		number of turns	volts DC				
	Ω±10% (at 20°C)			100% cont.	50% or less	25% or less	10% or less	
M380SS-12v	15	1712	12.0	17.0	24.0	38.0		
M380SS-24v	58	3322	24.0	34.0	48.0	76.0		
M380SS-48v	224	6360	48.0	68.0	96.0	152.0		
M380SS-96v	871	12400	96.0	136.0	192	304		
			1360	1923	2720	4300		
			10	20	40	100		
			∞	330	80	20		
			duty cycle = "on" time x 100% / ("on" time + "off" time)					
			Max. "on" time in seconds					
			watts at 20°C					
			ampere-turns at 20°					

Insulation Resistance >100MΩ, 500VDC Megger

Class E (120°C) insulation class

Dielectric Strength 1000VAC, 50/60Hz, 1 minute



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