VOICE COIL LINEAR MOTOR

VC-5512-T

INTENDED USE

Mager designs high performing voice coil linear motors, **VC series**.

A linear voice coil actuator is ideal for short strokes closed loop servo applications. Its compact size allows it to fit into small spaces. It has very low electrical and mechanical time constants. The low moving mass allows for high accelerations of light payloads. The result is a much simpler and more reliable system.

The strength point is: if the voice coil is equipped with a properly driven drive, it is able to develop a controlled net force while it is chasing a real-time profile movement, without using a force feedback (load cell).

Coupling the actuators with an air bearing system, position feedback device, linear servo amplifier and motion controller yields a system that is capable of handle position, velocity, and acceleration control.

BENEFITS

Best force-load ratio
Best force output-dimensions ratio
No overheating thanks to temperature sensor embedded
Top performances thanks to turnkey drives

INDUSTRIAL SECTORS

ELECTRONICS&SEMICONDUCTOR
PRODUCTION&PACKAGING IN FMCG
SPECIAL APPLICATIONS

APPLICATIONS

High dynamics contact probes
Dynamics actuator for heavy duty cycles
Linear actuator in high dynamics
High accurate test in force devices

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MAIN FEATURES

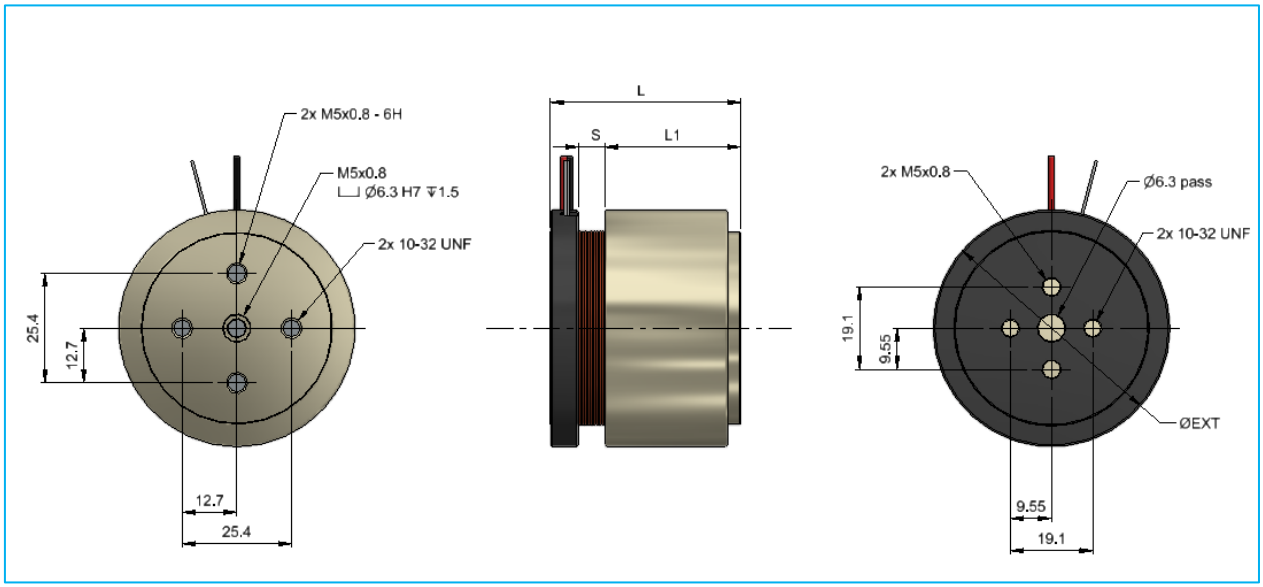
MAIN FEATURES		UM	Description
Continuative force	F_N	N	46
Peak force	F_p	N	135
Force constant	K_F	N/A_{rms}	17.1
BEMF constant	K_e	V/(m/s)	17.1
Electrical resistance(1)	R	Ω	5.6
Inductance	L	mH	4.0
Continuous current	I_N	A_{rms}	2.75
Peak current	I_p	APk	8
Max continuous power(2)	P_d	W	42
Rated Inverter DC bus Voltage	V_{DC}	V	60
Stroke	C_m	mm	12
Total mass	m_T	g	565
Coil Assembly Mass	m_m	g	85

TEMPERATURE SENSOR TE Connectivity **10K3A1iA**	UM	Description
R @ 25°C	Ohms	10000
0-70°C Resistance Tolerance	°C	± 0.1
Temperature range	°C	up to 125
Time Response	s	<1

Performance specs are referred to free air convection cooling
(1) All electric data at 20°C
(2) For best performance: heat transfer coefficient ≥ 5 W/(dm2*K) (through coil backside external surface)

DIMENSIONS		UM	Description
External diameter	Ø ext	mm	55
Lenght (mid stroke)	L	mm	44.2
Lenght	L1	mm	31.6
Distance (mid stroke)	S	mm	6

OUTLINE DRAWING



PERFORMANCES – FORCE VS POSITION