

# DGV Series

## Double Guide Voice Coil Stage

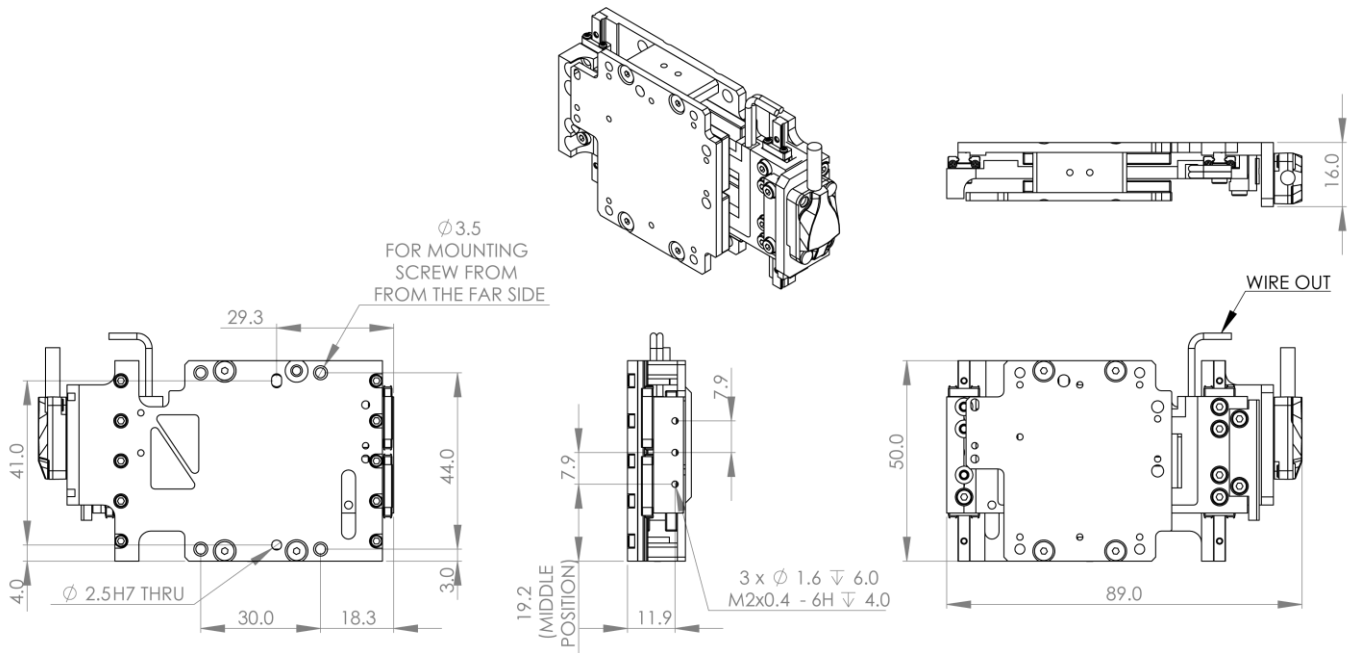


- Compact, modular direct drive voice coil pick and place system
- Low moving mass
- High acceleration, fast response and short settling time

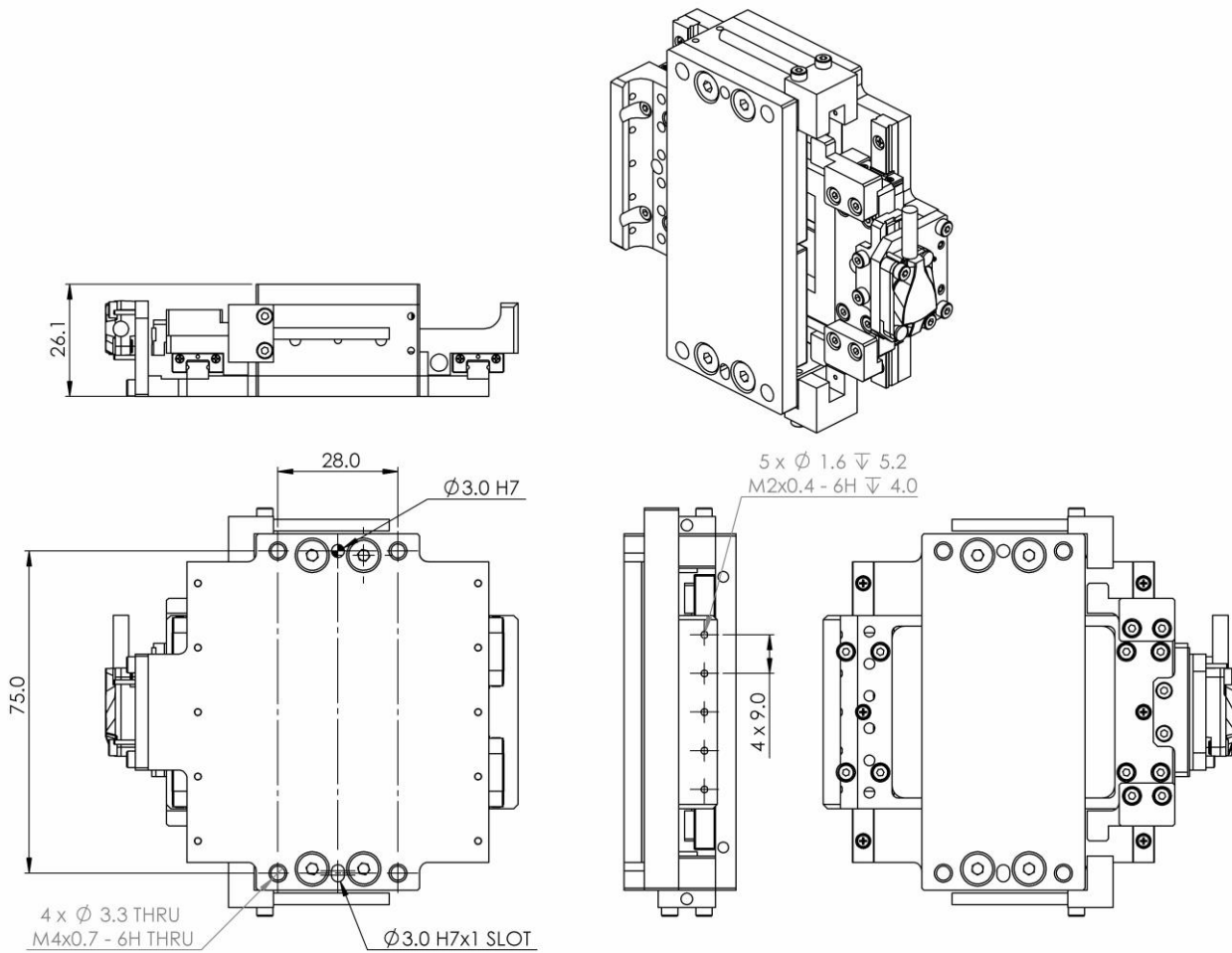
## Motor Parameter

DGV	Unit	DGV 16	DGV 26	DGV32
		1µm	1µm	1µm
<b>Electrical Parameters</b>	<b>Motor</b>	<b>AVA 1-C2-10</b>	<b>AVA 2-20</b>	<b>AVA 3-20</b>
Continuous ForceCoil @100 °C	N	4	10.08	17.92
Peak Force	N	12	30.2	53.8
Continuous current	A	2	1.4	2.8
Peak Current	A	6	4.2	8.4
Voltage at Peak Force	V	4.9	24	24
Force Sensitivity	N/A	2.3	7.2	6.4
Back EMF Constant	V/m/s	2.3	7.2	6.4
Resistance	Ohms	1	3.4	1.5
Inductance	mH	0.134	1.6	0.68
Actuator constant	N/SqRt(W)	2.3	3.9	5.23
Max Allowable Coil Temp	Deg C	155	155	155
<b>Mechanical Parameters</b>				
Moving Mass	kg	0.028	0.110	0.160
Total Mass	kg	0.220	0.750	1.100
Recommended maximum load	kg	0.175713598	0.403761468	0.753353721
Hard Stop Stroke	mm	±5	±10	±10
Limit Stroke	mm	-*	±9.5	±9.5
<i>*Limit not available</i>				
<b>Performance Parameters</b>				
Straightness	µm	±3µm		
Flatness	µm	±3µm		
Bidirectional Repeatability (1µm resolution)	µm	±2µm		
Note: The straightness, bidirectional repeatability and linearity are qualified according to ISO 230-2:1997.				
<b>Bearing Parameters</b>				
Maximum static load capacity	N	176.0	236.0	548.0
Maximum static row moment	Nm	3.8	4.2	16.5
Maximum static pitch moment	Nm	1.0	1.8	4.9
Maximum static yaw moment	Nm	3.8	4.2	16.5
Recommended maximum load <sup>1</sup>	N	1.7	4.0	7.4
Recommended row moment	Nm	1.3	1.4	5.5
Recommended pitch moment	Nm	0.3	0.6	1.6
Recommended yaw moment	Nm	1.3	1.4	5.5
1: The recommended maximum load is based on the load in which the acceleration of the moving mass is at least 1G.				

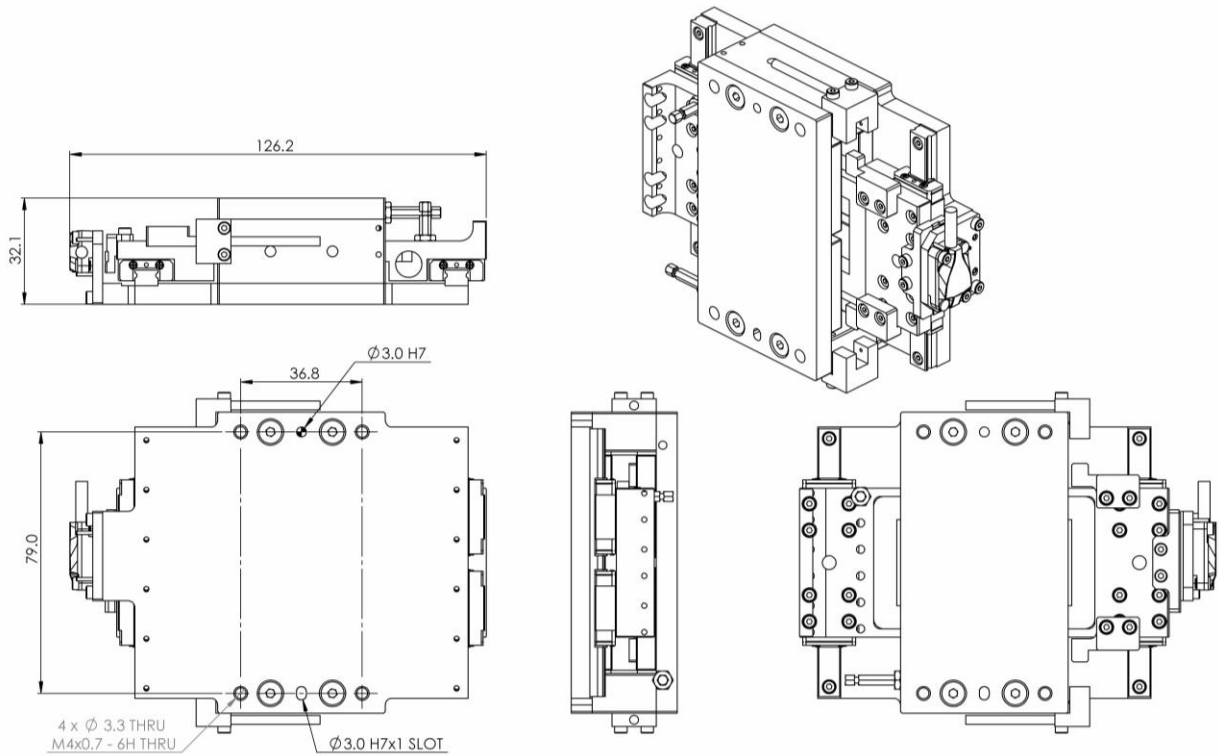
**DGV 16**



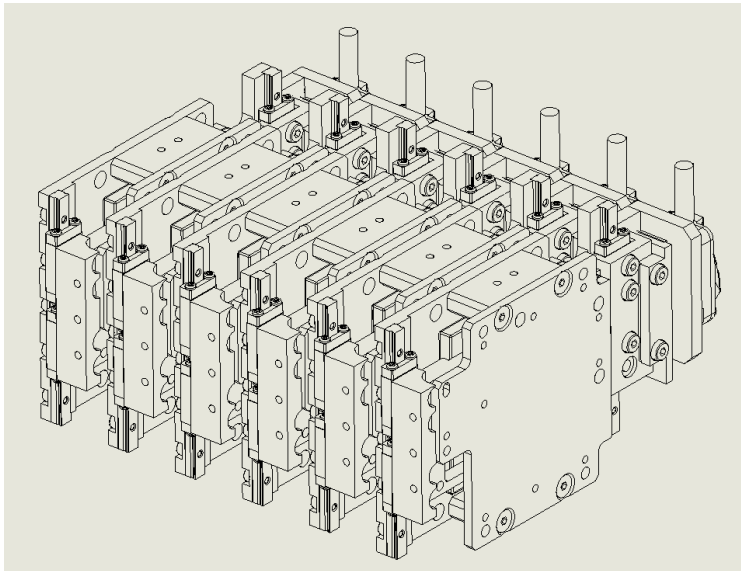
**DGV 26-20**



**DGV 32-20**



**Multiple pick and place solution**



**Part Numbering**

Model	Stroke	Coil Type Options	Cable Length	Encoder Options	Encoder Resolution (um)
DGV16	10	AVA1-C2-10	0.5	M1	1500-1.0 / 1500-0.5
DGV26	20	AVA2-20	DGV26		
DGV32	20	AVA3-20	DGV32		

**Example: DGV16-AVA1-C2-10-0.5 – M1-1500-0.5**