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**

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Motor Parameter

| DGV		DGV 16	DGV 26	DGV32
	Unit	1µm	1µm	1µm
Electrical Parameters	Motor	AVA 1-C2-10	AVA 2-20	AVA 3-20
Continuous ForceCoil @100ºC	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
Mechanical Parameters				
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
Stroke *	mm	10 [#]	20	20
Note: Please contact us for customized stroke.				
Performance Parameters				
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.				
Bearing Parameters				
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[1]	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.				

＊ Stroke refers to hardstop-to-hardstop. The limit sensors are positioned 0.5mm from the hardstops.

**#** DGV16 is too compact to integrate with the limit sensor. Hence, this DGV16 module is without limit sensor.

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DGV 16

Ø3.5
FOR MOUNTING
SCREW FROM
FROM THE FAR SIDE

29.3

41.0

44.0

4.0

Ø 2.5H7 THRU

30.0   18.3   3.0

7.9

7.9

19.2
(MIDDLE
POSITION)

11.9

3 x Ø 1.6 ⤓ 6.0
M2x0.4 - 6H ⤓ 4.0

16.0

WIRE OUT

50.0

89.0

DGV 26-20

26.1

28.0

Ø3.0 H7

75.0

4 x Ø 3.3 THRU
M4x0.7 - 6H THRU

Ø3.0 H7x1 SLOT

5 x Ø 1.6 ⤓ 5.2
M2x0.4 - 6H ⤓ 4.0
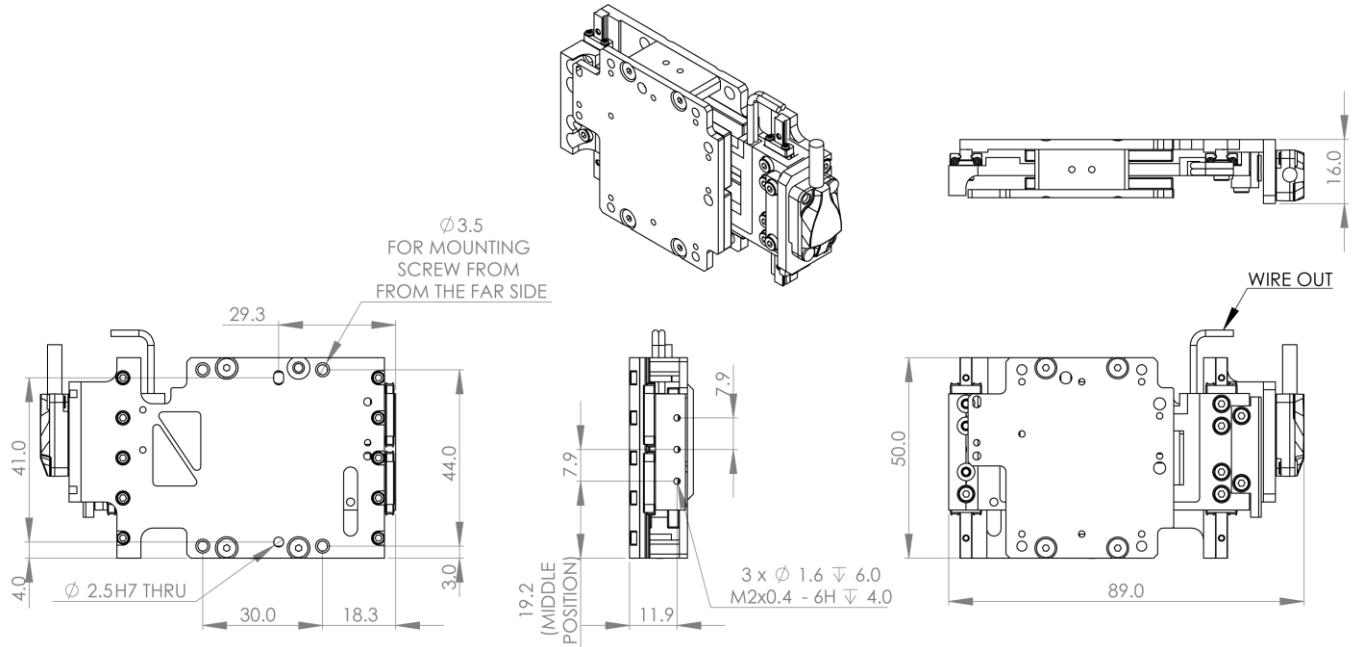
4 x 9.0
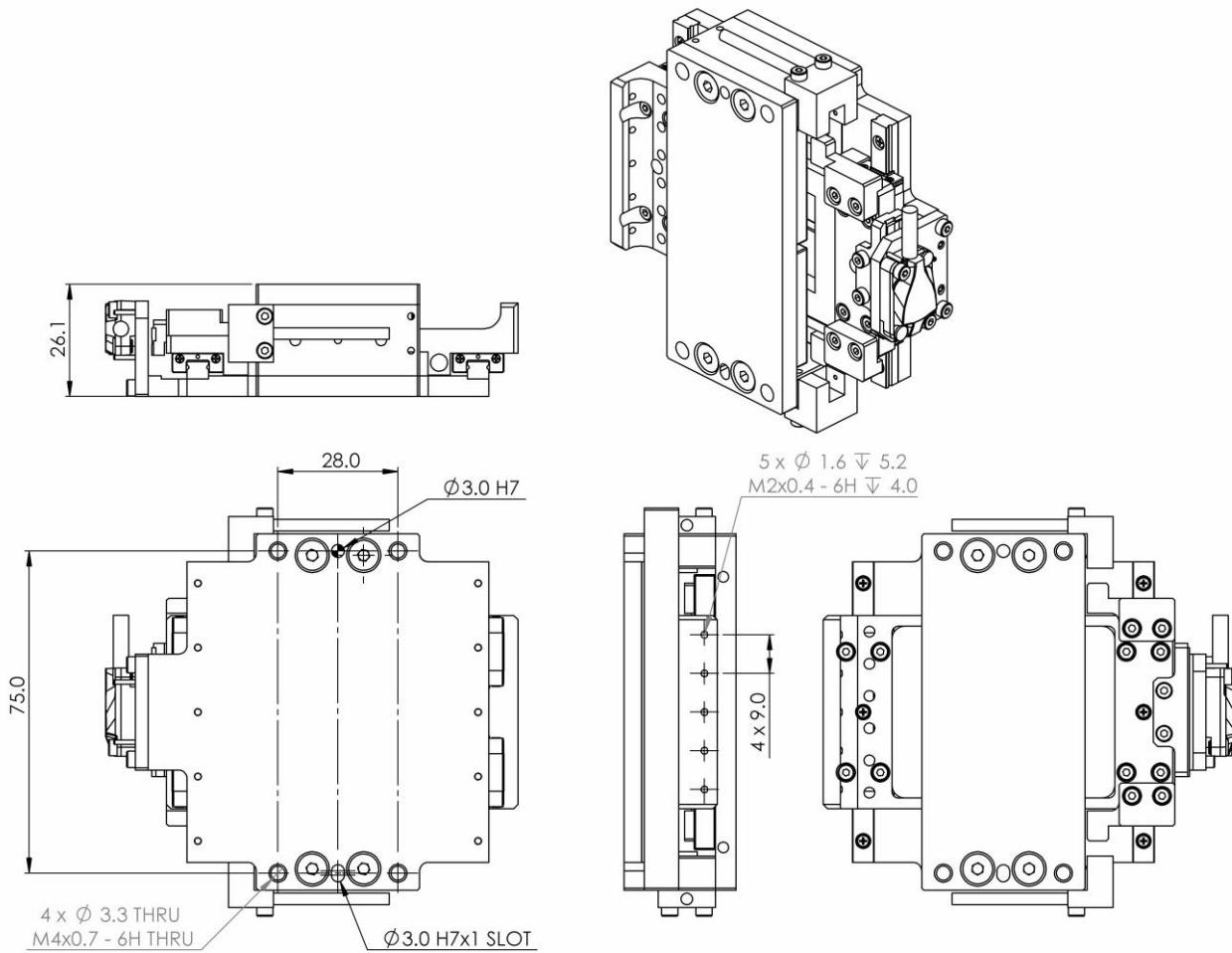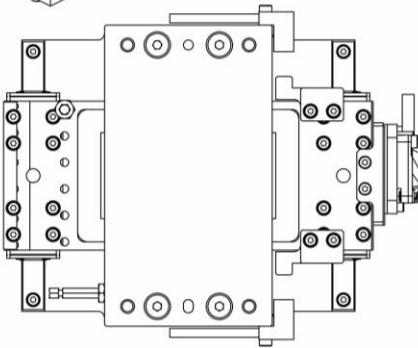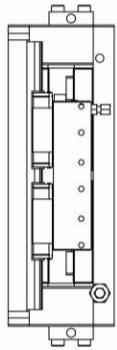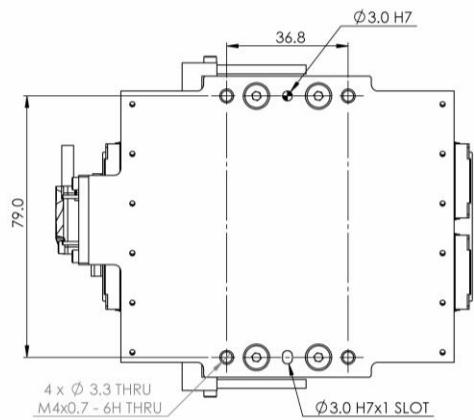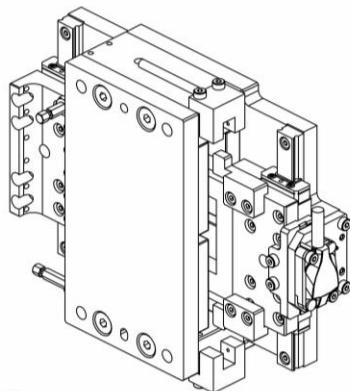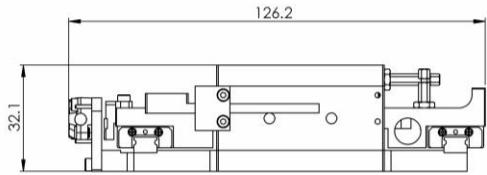
DGV 32-20

Multiple pick and place solution
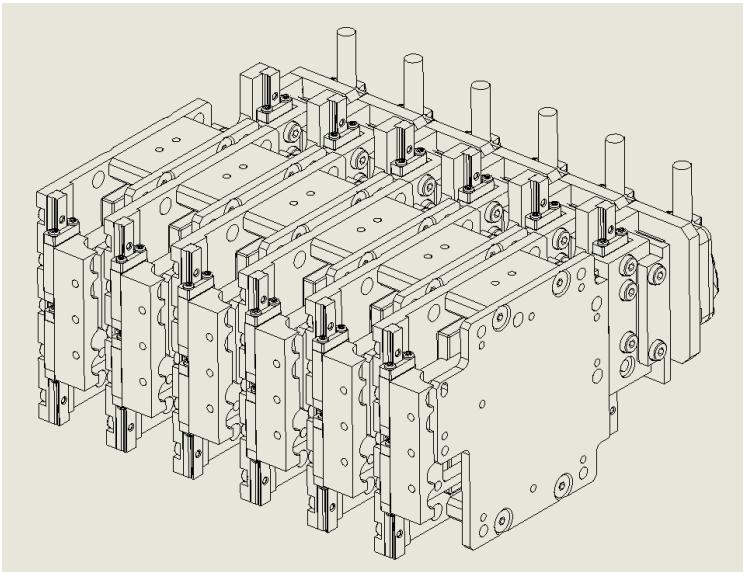
Part Numbering

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

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