

XRV Series

Cross Roller Voice Coil Stage



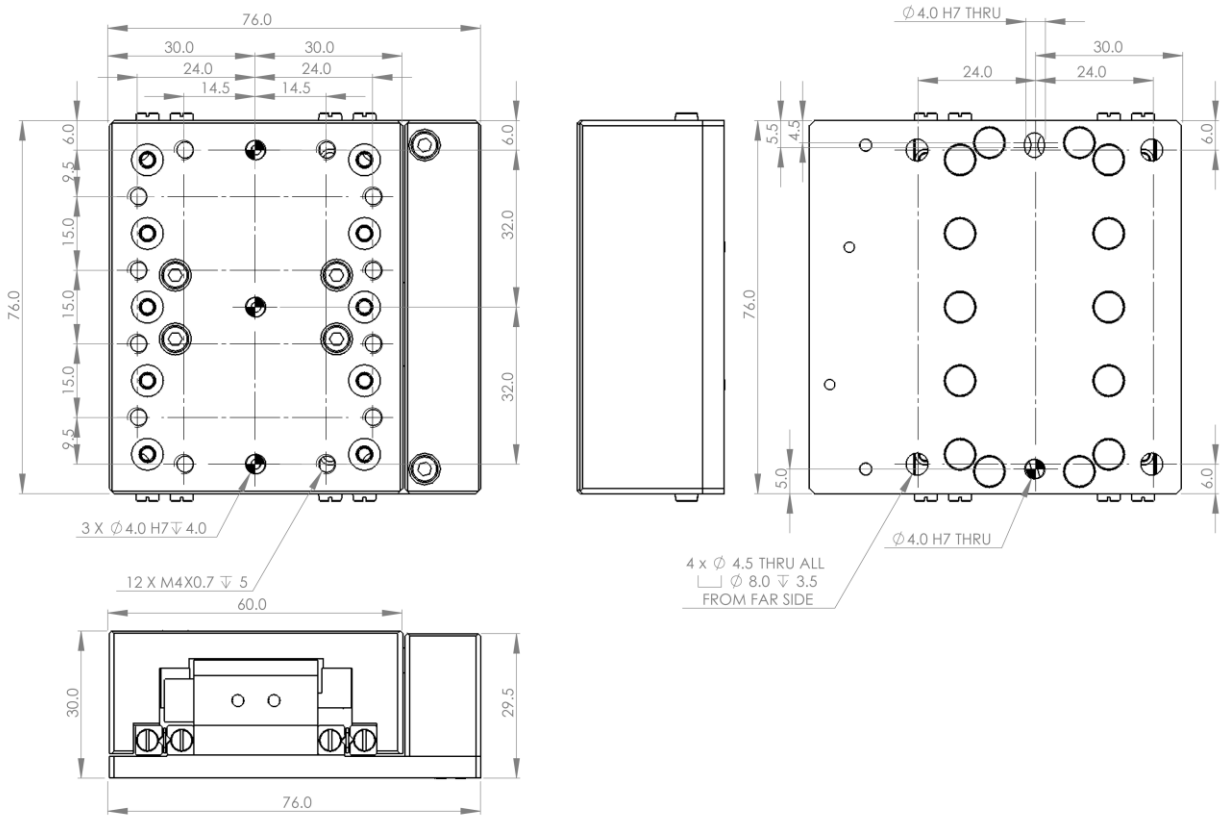
- Suitable for minute movement and smooth motion
- Fast response and quick settling time
- Low friction
- No commutation needed
- High precision

Motor Parameter

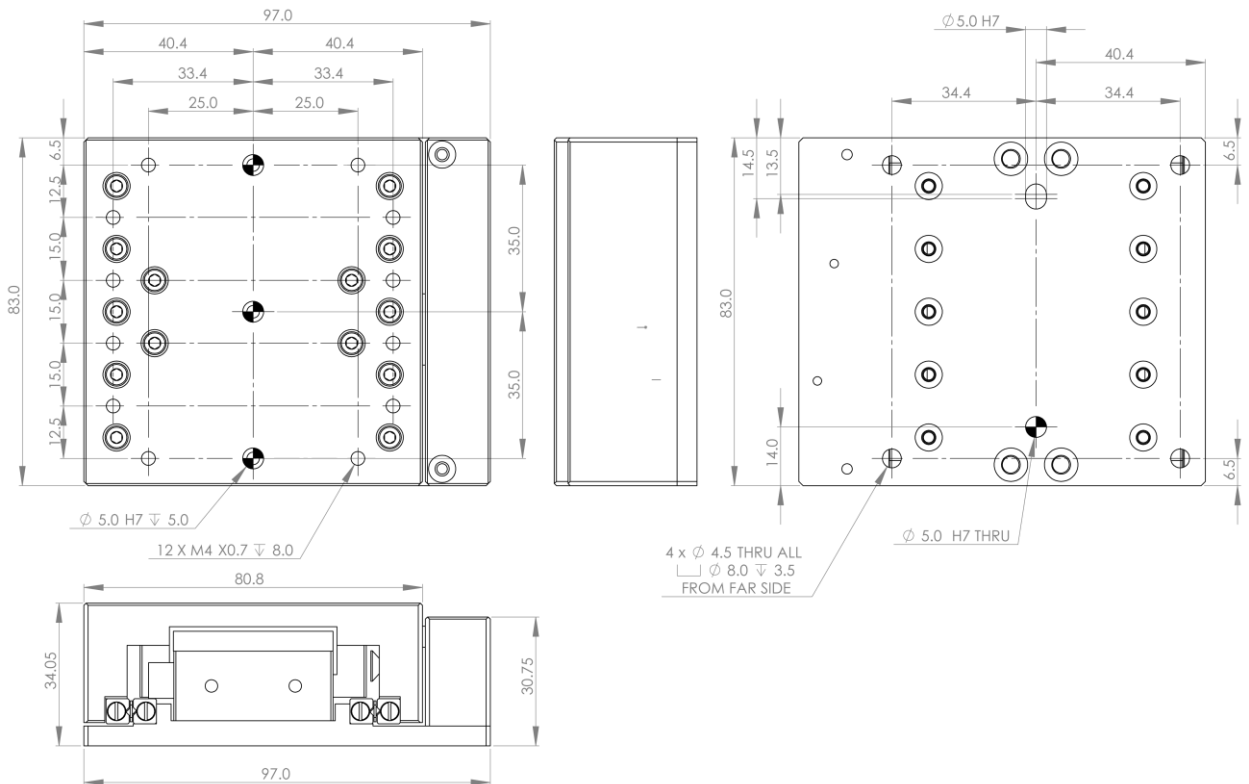
XRV	Unit	XRV76	XRV97	XRV115
Electrical Parameters	Motor	AVA1-20	AVA2-20	AVA3-20
Continuous Force Coil @100°C	N	2.74	10.08	17.92
Peak Force	N	8.20	30.20	53.80
Motor Constant	N/SqRt (W)	1.16	3.90	5.23
Continuous Power	W	5.6	6.66	11.76
Peak Power	W	50.4	60	105.8
Max Bus Voltage	V	24	24	24
Max Coil Temperature	°C	155	155	155
Continuous current	A	2	1.4	2.8
Peak Current, I_{peak}	A	6	4.2	8.4
Force Constant	N/A	1.37	7.20	6.40
Back EMF Constant, V_{emf}	V/m/s	1.37	7.20	6.40
Inductance	mH	0.26	1.6	0.68
Terminal Resistance @ 25°C	Ohms	1.4	3.4	1.5
Electrical Time Constant	ms	0.2	0.5	0.5
Mechanical Parameters				
Moving Mass	kg	0.167	0.264	0.425
Total Mass	kg	0.476	1.152	2.206
Recommended maximum load	kg	0.1	0.7	1.4
Stroke *	mm	20	20	20
Note: Please contact us for customized stroke.				
Performance Parameters				
Straightness	μm		±2.5μm	
Flatness	μm		±2.5μm	
Bidirectional Repeatability	μm		±0.5μm	
Linearity without mapping	μm		±5μm	
Linearity with mapping	μm		±1μm	
Note: The straightness, bidirectional repeatability and linearity are qualified according to ISO 230-2:1997.				
Bearing Parameters				
Maximum static load capacity	N	510.0	510.0	510.0
Recommended maximum load ¹	N	1	7	14
Recommended row moment	Nm	0.6	0.6	0.6
Recommended pitch moment	Nm	0.5	0.5	0.5
Recommended yaw moment	Nm	0.3	0.3	0.3
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.

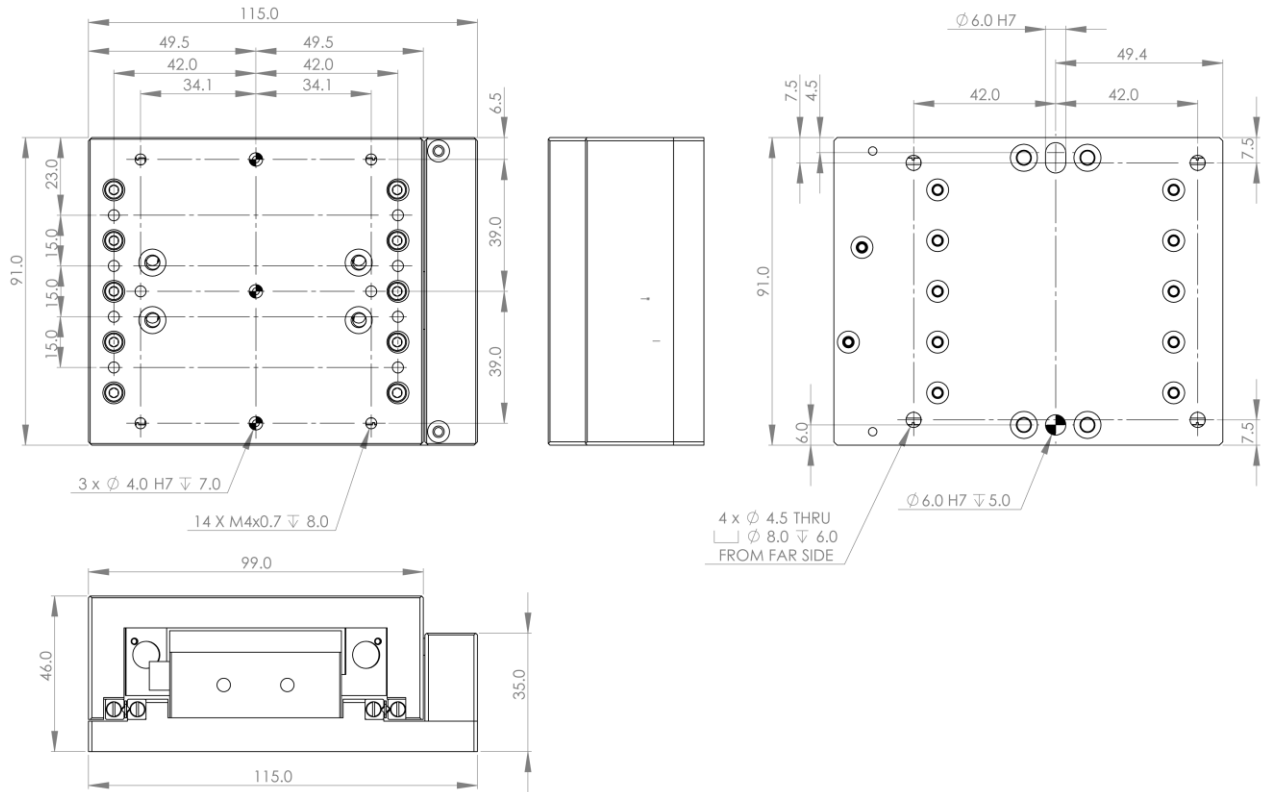
XRV 76-AVA1-20-0.5



XRV 97-AVA2-20-0.5



XRV 115-AVA3-20-0.5



Part Numbering

Horizontal Application:

XRV Series	Coil Type Options	Encoder Options	Encoder Resolution (um) Options
XRV76	AVA1-20-0.5	¹ M1	1500-1.0 / 1500-0.5 / 2000-0.1 / 3000-0.02 / 3500-0.005
XRV97	AVA2-20-0.5		
XRV115	AVA3-20-0.5		

1. With external Micro Photo sensor (Panasonic PM series)

Module

Example: XRV76-AVA1-20-0.5-M1-1500-0.5