

1

2

3

4

5

REVISION TABLE					
REV	ECN#	DESCRIPTION	REV BY	APPROVED	DATE
---	---	Original Drawing	OOG	MPW	2-21-17

A

A

B

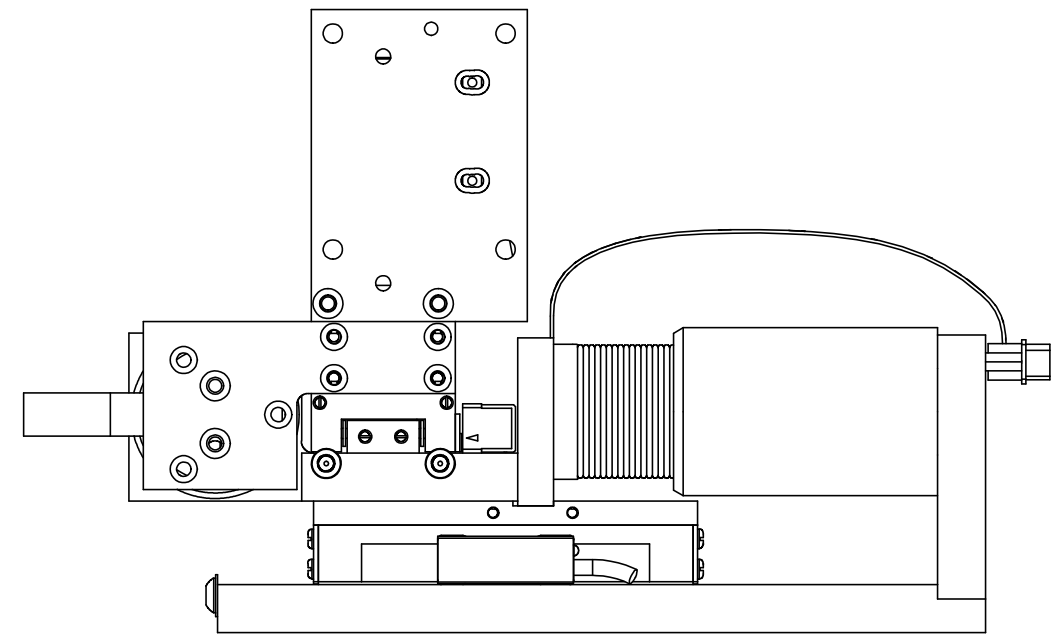
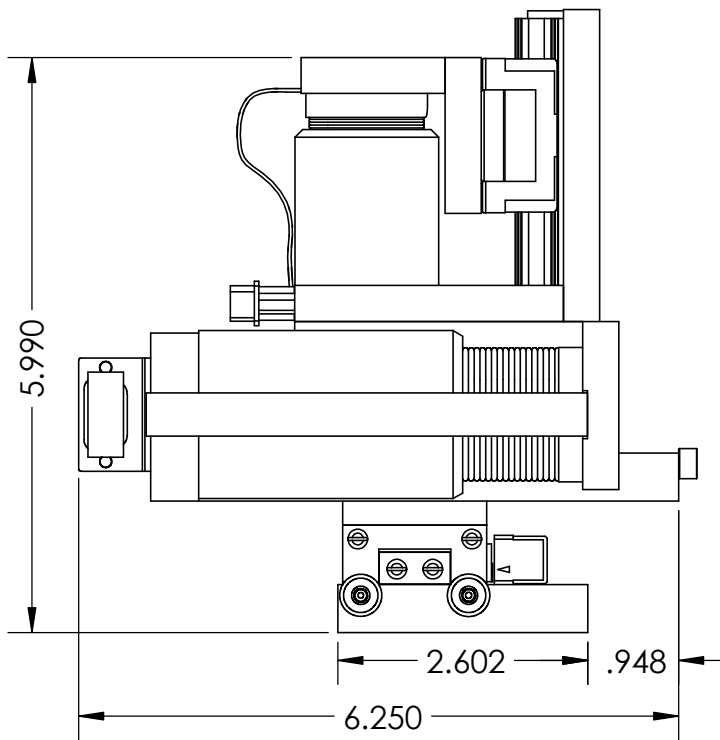
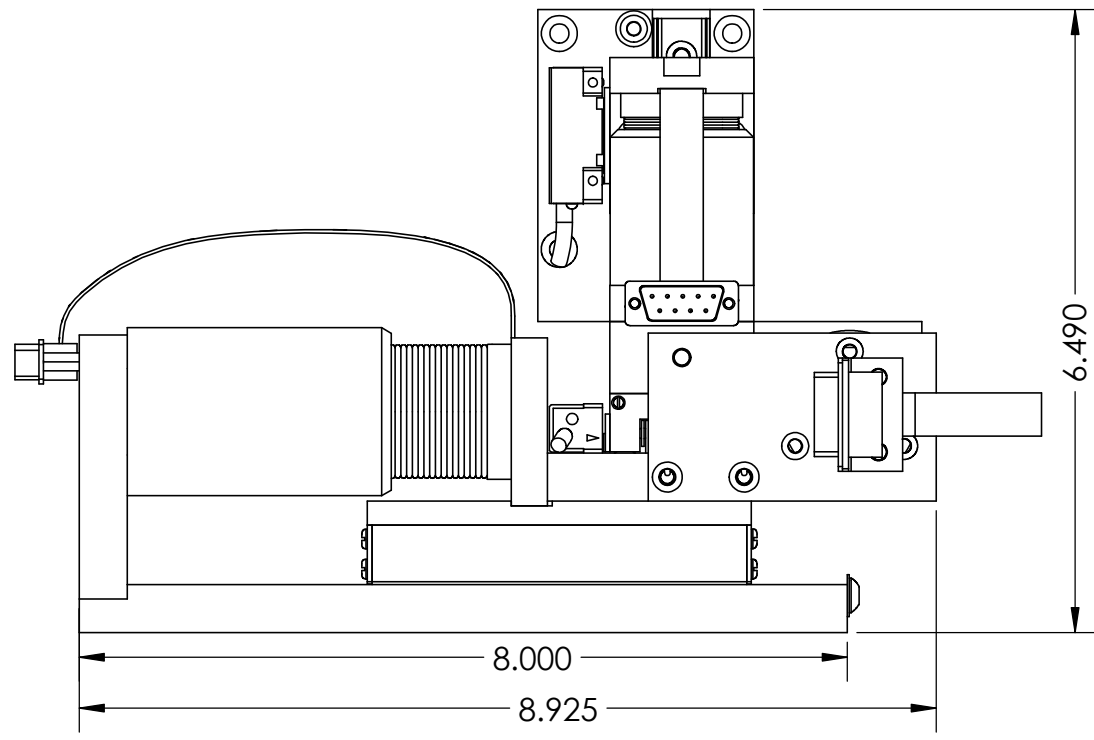
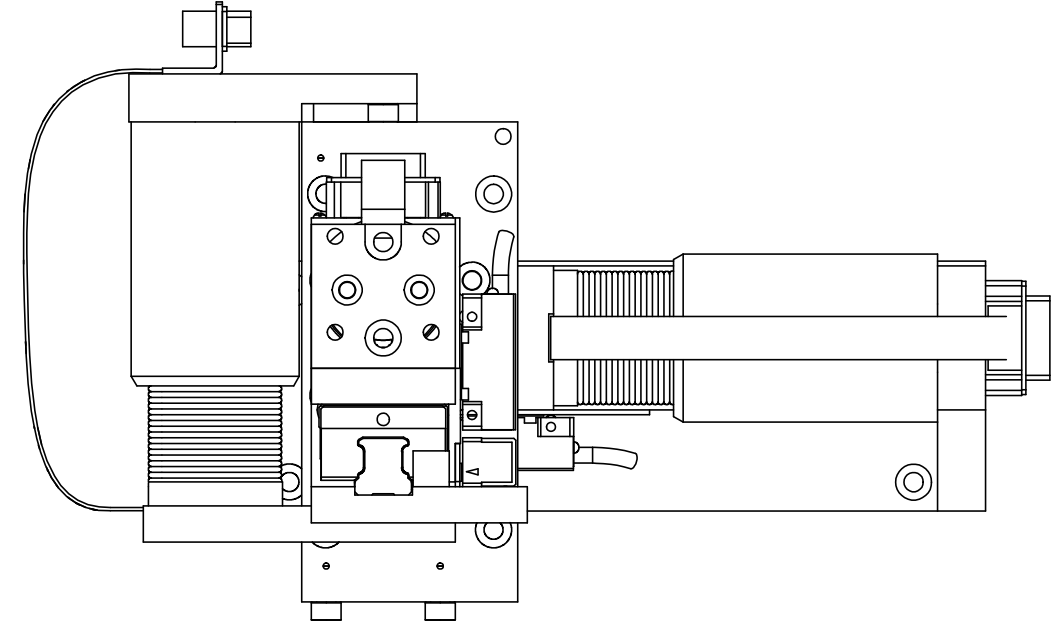
B

C

C

D

D



NOTE: All axis shown at mid-stroke

H2W Technologies, Inc.
 Santa Clarita, CA 91350 USA
 Tel: (661) 291-1620
www.h2wtech.com

These drawings and specifications are the property of H2W Technologies, Inc. They are issued in confidence and shall not be reproduced, copied, or used without written permission from H2W Technologies, Inc.

UNLESS SPECIFIED OTHERWISE:
 All dimensions are in inches
 Standard Tolerances are as follows
 .XXX ±.005 ANGLES ±.1°
 .XX ±.010 FILLETS .010
 .X ±.020 CORNERS .010
 Remove All Burrs and Sharp Edges

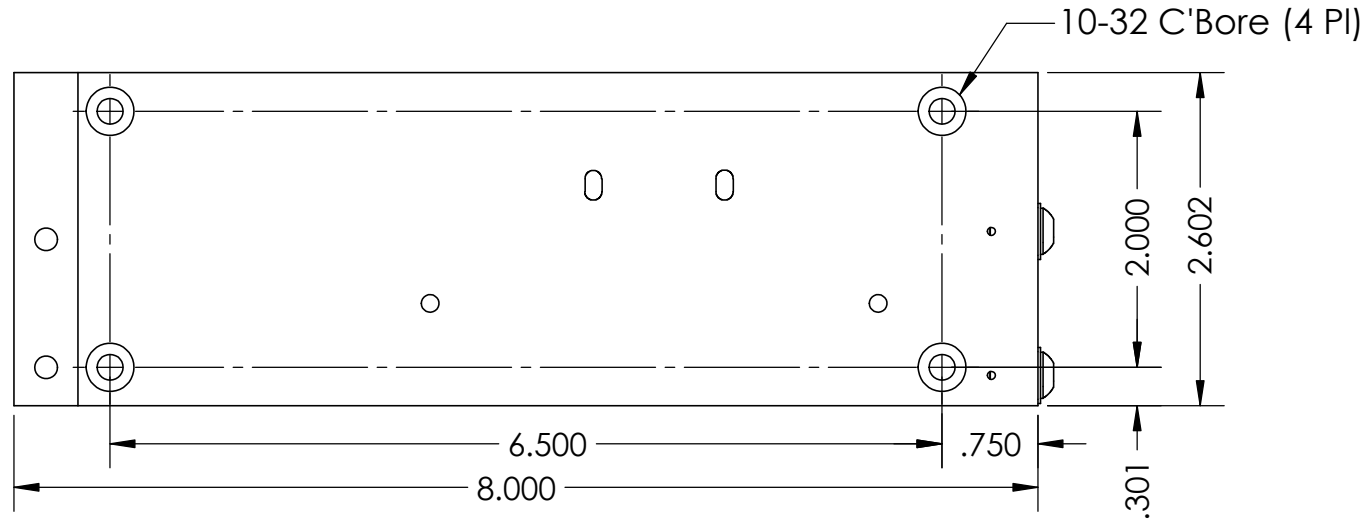
FOR REFERENCE ONLY

MATERIAL	TITLE
FINISH	XYZ Voice Coil Positioning Stage Model #: VCS20-20-03-MC-01-XYZ

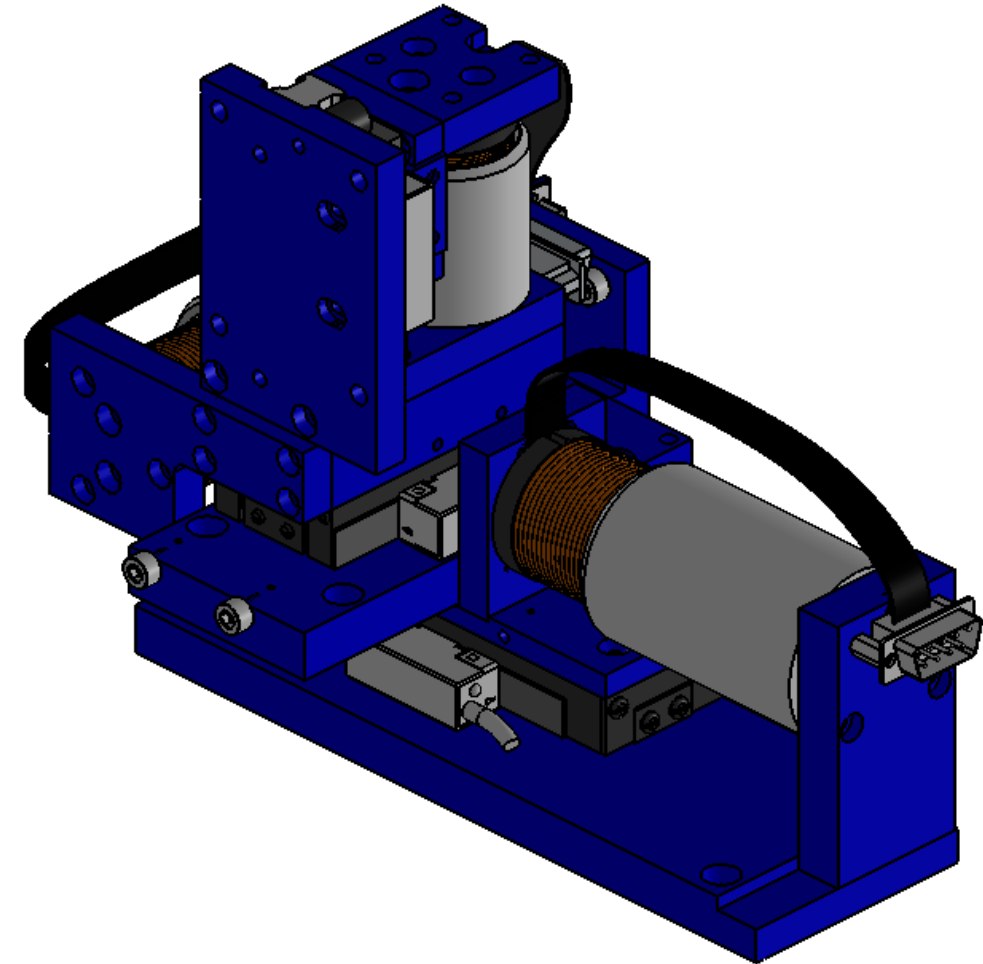
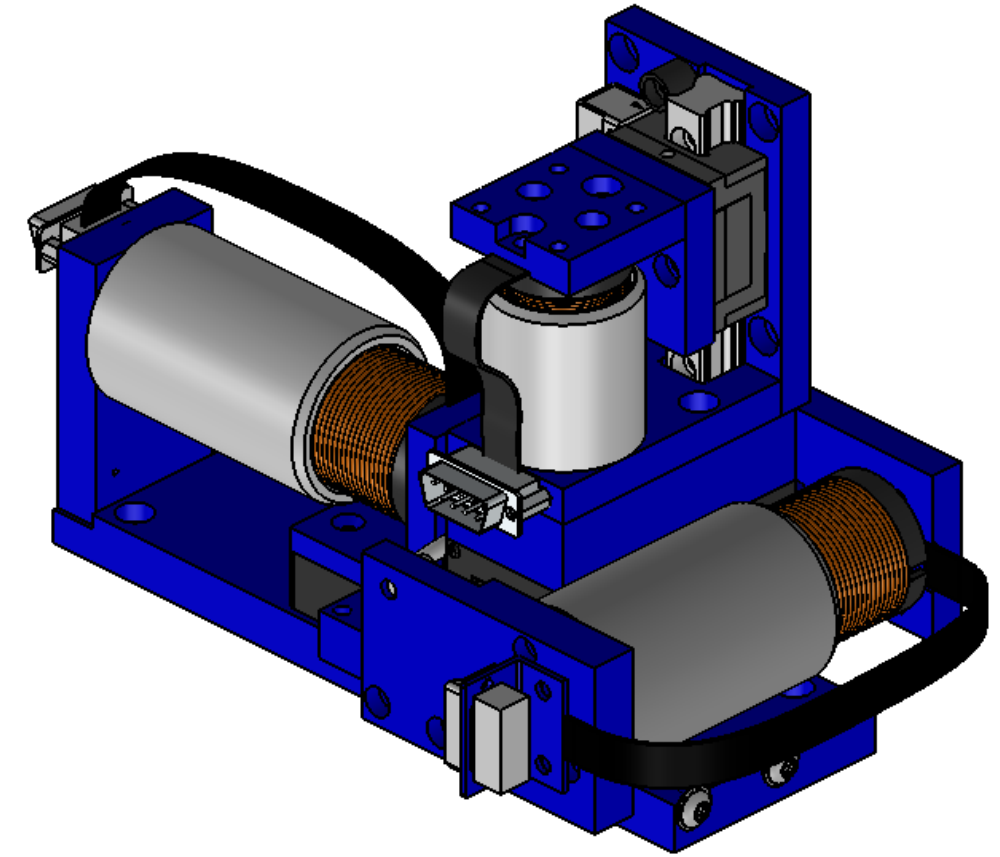
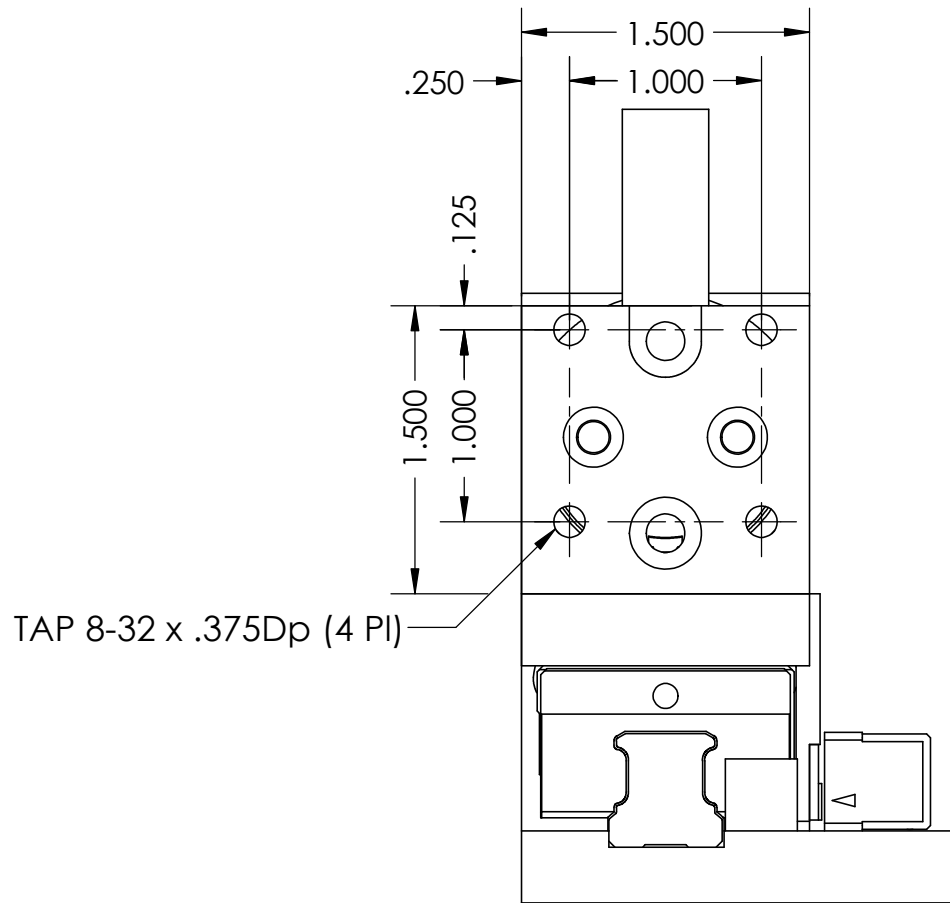
DWG #	31-0781
REV	----
DATE	2-21-17

SHEET	1 of 3
-------	--------

PARTS HAVE BEEN HIDDEN TO SHOW GANTRY BASE MOUNTING HOLES



PARTS HAVE BEEN HIDDEN TO SHOW VERTICAL AXIS PAYLOAD MOUNTING HOLES



H2W Technologies, Inc.
 Santa Clarita, CA 91350 USA
 Tel: (661) 291-1620
www.h2wtech.com

These drawings and specifications are the property of H2W Technologies, Inc. They are issued in confidence and shall not be reproduced, copied, or used without written permission from H2W Technologies, Inc.

UNLESS SPECIFIED OTHERWISE:
 All dimensions are in inches
 Standard Tolerances are as follows
 .XXX ±.005 ANGLES ±.1°
 .XX ±.010 FILLETS .010
 .X ±.020 CORNERS .010
 Remove All Burrs and Sharp Edges

FOR REFERENCE ONLY

MATERIAL	TITLE
FINISH	XYZ Voice Coil Positioning Stage Model #: VCS20-20-03-MC-01-XYZ

DWG #	31-0781
REV	----
DATE	2-21-17
SHEET	2 of 3

A

A

B

B

C

C

D

D

VOICE COIL POSITIONING STAGE SPECIFICATIONS (X-Axis)		
Motor P/N	NCC20-18-020-1A	
Stroke	2.00"	50.8 mm
Encoder Resolution	1 micron	
Encoder Type	Magnetic	
Bearing Type	Ball Slide	
Moving Part	Coil Assembly	
Moving Mass	0.80 lbs	0.36 kg
Total Mass	3.60 lbs	1.63 kg
Resistance @ 20C	3.50 ohms	
Inductance @ 20C	3.70 mH	
Electrical Time Constant	1.05 msec	
Motor Constant	0.75 LBS/SQRT(Watt)	3.34 N/SQRT(Watt)
Force Constant	1.4 lbs/Amp	6.1 N/Amp
Back EMF	0.2 V/ips	6.1 V/m/sec
Force @ 100% Duty	2.0 lbs	8.9 N
Power @ 100% Duty	7 watts	
Current @ 100% Duty	1.4 Amps	
Force @ 10% Duty	6.0 lbs	26.7 N
Power @ 10% Duty	64 watts	
Current @ 10% Duty	4.3 Amps	

VOICE COIL POSITIONING STAGE SPECIFICATIONS (Y-Axis)		
Motor P/N	NCC20-18-020-1A	
Stroke	2.00"	50.8 mm
Encoder Resolution	1 micron	
Encoder Type	Magnetic	
Bearing Type	Crossed Roller	
Moving Part	Coil Assembly	
Moving Mass	0.95 lbs	0.43 kg
Total Mass	3.75 lbs	1.7 kg
Resistance @ 20C	3.50 ohms	
Inductance @ 20C	3.70 mH	
Electrical Time Constant	1.05 msec	
Motor Constant	0.75 LBS/SQRT(Watt)	3.34 N/SQRT(Watt)
Force Constant	1.4 lbs/Amp	6.1 N/Amp
Back EMF	0.2 V/ips	6.1 V/m/sec
Force @ 100% Duty	2.0 lbs	8.9 N
Power @ 100% Duty	7 watts	
Current @ 100% Duty	1.4 Amps	
Force @ 10% Duty	6.0 lbs	26.7 N
Power @ 10% Duty	64 watts	
Current @ 10% Duty	4.3 Amps	

VOICE COIL POSITIONING STAGE SPECIFICATIONS (Z-Axis)		
Motor P/N	NCC03-15-050-2X	
Stroke	0.25"	6.4 mm
Encoder Resolution	1.0 micron	
Encoder Type	Magetic	
Bearing Type	Linear Bearing	
Moving Part	Coil Assembly	
Moving Mass	0.50 lbs	227 grams
Total Mass	1.88 lbs	854 grams
Resistance @ 20C	3.8 ohms	
Inductance @ 20C	1.3 mH	
Electrical Time Constant	0.35 msec	
Motor Constant	1.4 LBS/SQRT(Watt)	2.98 N/SQRT(Watt)
Force Constant	1.2 lbs/Amp	6.1 N/Amp
Back EMF	0.30 V/ips	11.9 V/m/sec
Force @ 100% Duty	5.0 lbs	22.3 N
Power @ 100% Duty	13.0 watts	
Current @ 100% Duty	1.9 Amps	
Force @ 10% Duty	15.0 lbs	66.8 N
Power @ 10% Duty	118 watts	
Current @ 10% Duty	5.6 Amps	

NOTE:
 - Electrical specs & masses are per individual axis
 - Total stage weight = 9.5 lbs (4.3 Kg)



H2W Technologies, Inc.
 Santa Clarita, CA 91350 USA
 Tel: (661) 291-1620
www.h2wtech.com

These drawings and specifications are the property of H2W Technologies, Inc. They are issued in confidence and shall not be reproduced, copied, or used without written permission from H2W Technologies, Inc.

UNLESS SPECIFIED OTHERWISE:
 All dimensions are in inches
 Standard Tolerances are as follows
 .XXX ±.005 ANGLES ±.1°
 .XX ±.010 FILLETS .010
 .X ±.020 CORNERS .010
 Remove All Burrs and Sharp Edges

FOR REFERENCE ONLY

MATERIAL

FINISH

TITLE

XYZ Voice Coil Positioning Stage
Model #: VCS20-20-03-MC-01-XYZ

DWG #

31-0781

REV

DATE
2-28-17

SHEET
3 of 3