

# 2100 SERIES SUBSEA ROTARY ACTUATOR

MODEL SHOWN:  
2100RHS-SSSB0830-8R01

## GENERAL SPECIFICATIONS:

- PEAK OUTPUT TORQUE: UP TO 50 FT-LB (HT MODEL)
- MAX NO-LOAD SPEED: UP TO 75 RPM (HS MODEL)
- INTEGRATED SERVO CONTROL AND MOTOR DRIVE
- INTERNAL PRESSURE COMPENSATOR
- 8 PIN MICRO WET-MATE CONNECTOR STANDARD
  - CUSTOM OPTIONS SUCH AS METAL SHELL CONNECTORS ARE AVAILABLE. CONTACT 2G FOR INFORMATION.
- COMMUNICATION PHYSICAL LAYER OPTIONS: RS-232, RS-485, CAN, ETHERNET, ANALOG VOLTAGE CONTROL, AND ANALOG CURRENT CONTROL
- MAXIMUM RADIAL LOAD:
  - 40 LB WITH SHAFT CANTILEVERED 2" FROM MOUNTING FACE
  - 200 LB WITH SHAFT SUPPORTED
- MAXIMUM AXIAL LOAD: 100 LB
- AVAILABLE LOW-PROFILE RIGHT-ANGLE DRIVE UNIT. CONTACT 2G FOR DETAILS.

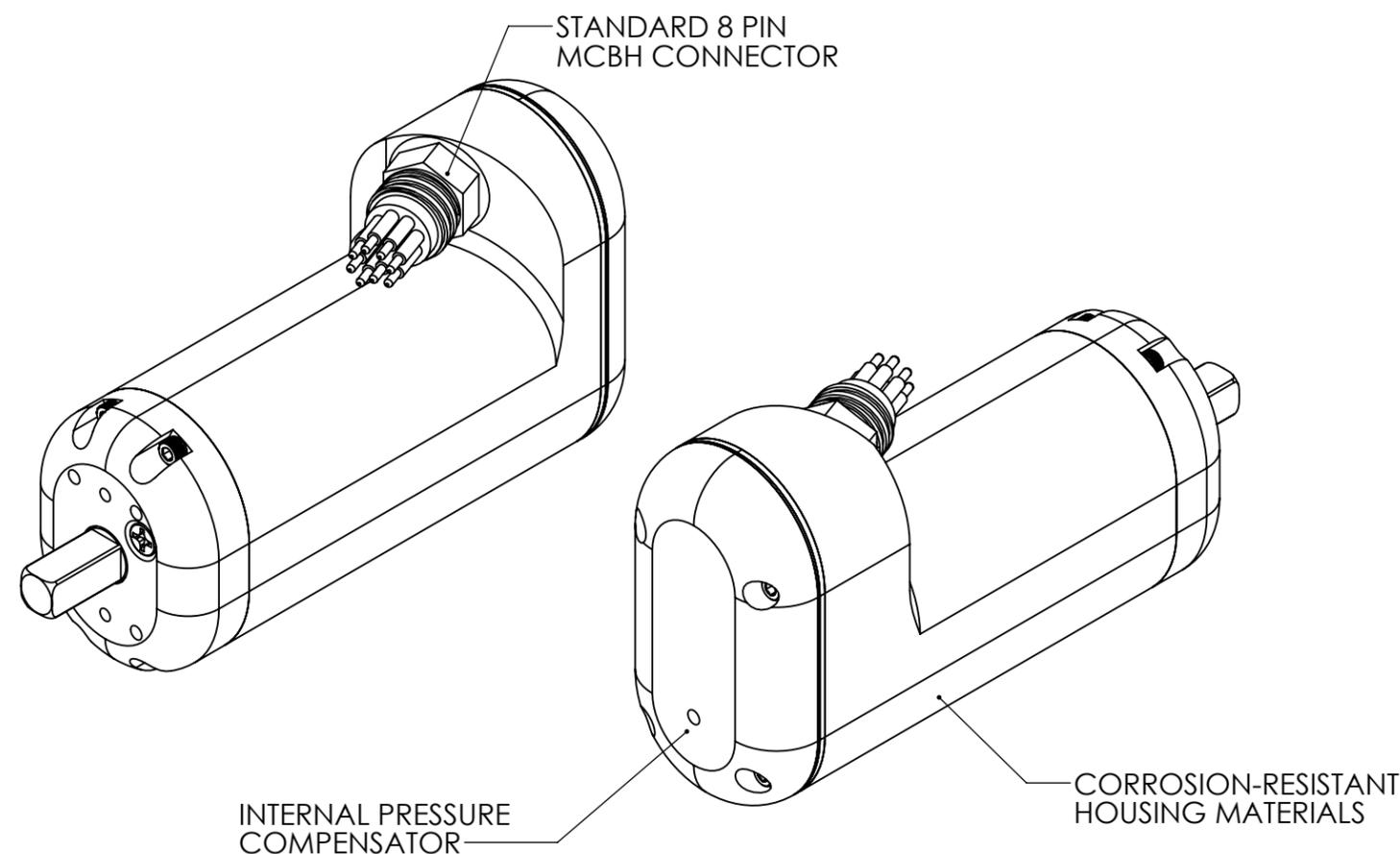
## OPERATING ENVIRONMENT:

- DESIGNED FOR MISSION-CRITICAL SUBSEA USE
- PRESSURE-BALANCED OIL-FILLED HOUSING
- CORROSION-RESISTANT HOUSING MATERIAL OPTIONS:
  - STAINLESS STEEL, PASSIVATED
  - ALUMINUM, HARDCOAT ANODIZED
  - TITANIUM
- OPERATIONAL DEPTH RATING: >6000 METERS SEAWATER
- DESIGN PRESSURE: 10,000 PSI
- OPERATING TEMPERATURE RANGE: -20°C to 65°C
- STORAGE TEMPERATURE RANGE: -30°C to 85°C
- OPERATING VOLTAGE OPTIONS:
  - 24 VDC NOMINAL (STANDARD)
  - 48 VDC NOMINAL
  - 96 VDC NOMINAL

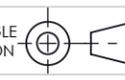
## ONBOARD MOTOR DRIVER AND SERVO SYSTEM:

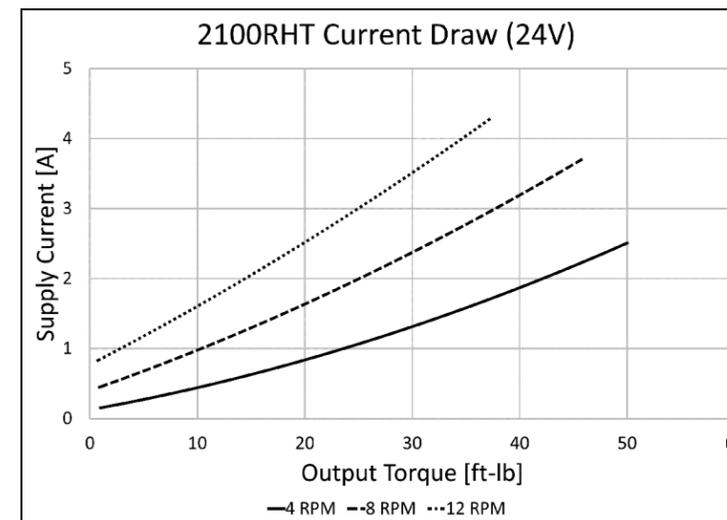
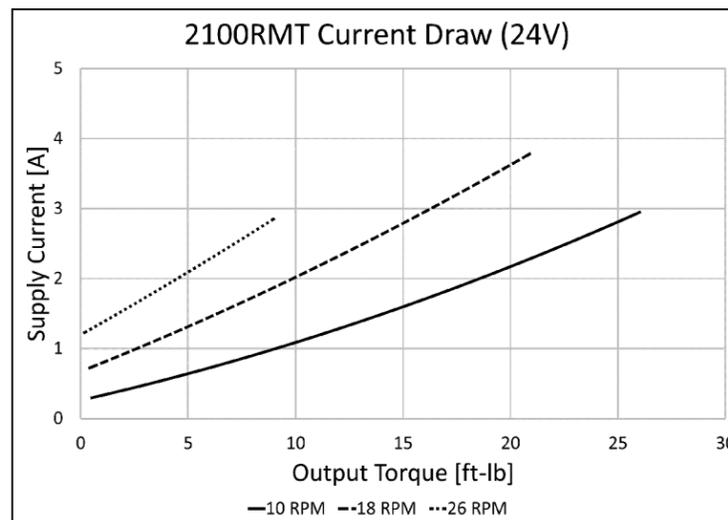
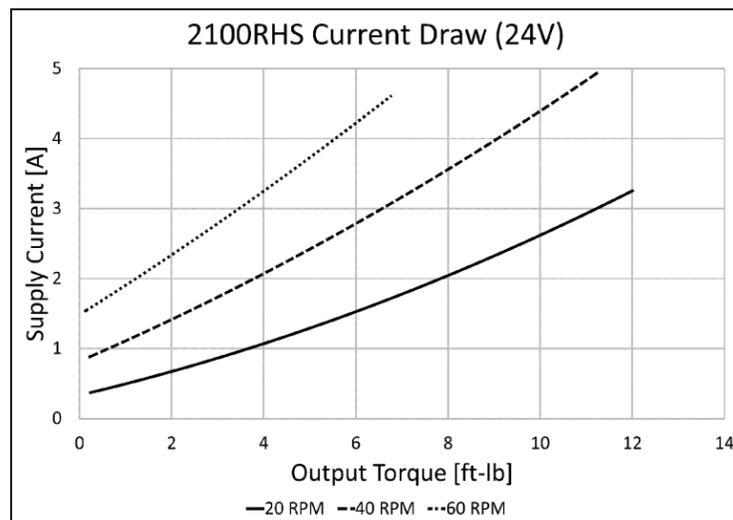
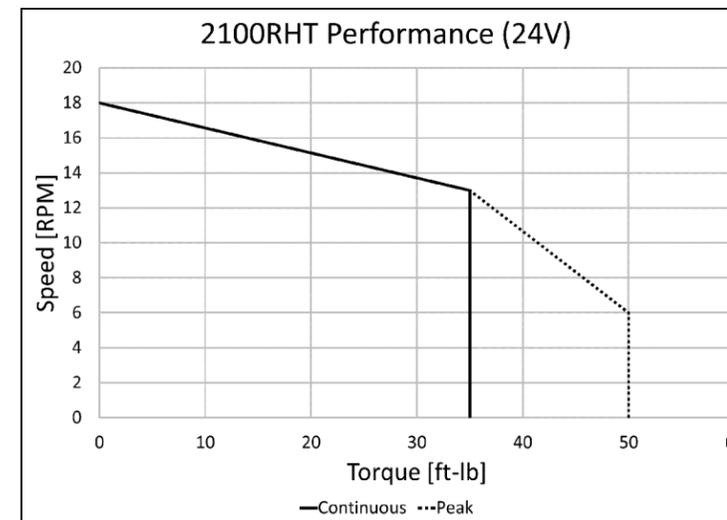
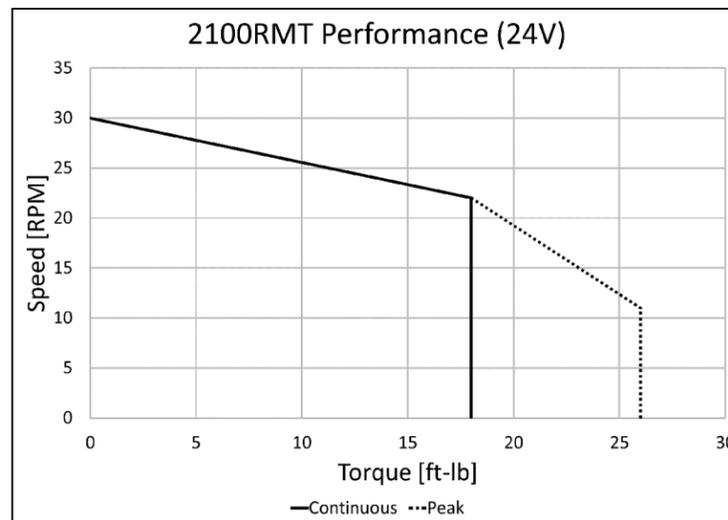
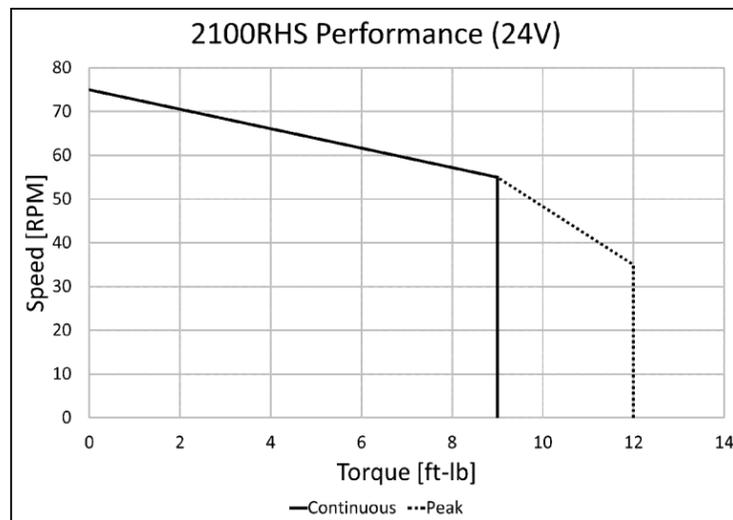
- CLOSED-LOOP POSITION CONTROL WITH PID TUNING
- CONFIGURABLE LIMITS FOR CURRENT, POWER, VELOCITY, AND ACCELERATION
- CONFIGURABLE MOTION PROFILE GENERATOR
- CONTACTLESS NON-WEARING ABSOLUTE POSITION SENSOR
- DOES NOT REQUIRE HOMING
- 0.002° RESOLUTION, 0.2° PRECISION, 1° ACCURACY
- COMMS PROTOCOLS: MODBUS & 2G PACKETS
- DEFAULT BAUD RATE: 115200

2G ENGINEERING CAN CUSTOMIZE ANY ACTUATOR TO SUIT YOUR APPLICATION. CERTAIN OPTIONS MAY IMPACT DIMENSIONS, PERFORMANCE, AND LEAD TIME. CONTACT 2G TO CONFIRM SPECIFICATIONS FOR YOUR APPLICATION.



RATED OUTPUT (24 VDC)		
MODEL	CONTINUOUS	PEAK
-	ft-lb [Nm]	ft-lb [Nm]
HT	35 [47]	50 [68]
MT	18 [24]	26 [35]
HS	9 [12]	12 [16]

MATERIAL: -	<b>UNLESS OTHERWISE SPECIFIED:</b> - DIMENSIONS ARE IN INCHES - DIMENSIONS IN [ ] ARE IN mm - TOLERANCES: DECIMALS: .X ±.05 .XX ±.015 .XXX ±.005 ANGULAR: MACHINED: ±0.5° OTHER: ±2° - THREAD DEPTHS ON TAPPED HOLES ARE MINIMUMS - TAP DRILL DIAMETERS ARE REFERENCE - MAX FILLET RADIUS ON INSIDE SHARP CORNERS: 0.005 - BREAK ALL SHARP EDGES 0.010 MAX AND REMOVE BURRS - SURFACE FINISH: ≤63 Ra (µin)	INITIALS	DATE	 <b>2G ENGINEERING</b> WWW.2G-ENG.COM 608-825-4799	TITLE: 2100 SERIES ROTARY ACTUATOR	
MATERIAL COMMENTS:		DRAWN	DJF			05/17/2023
FINISH:		APPROVED	DJF			05/17/2023
		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF 2G ENGINEERING. ANY DISTRIBUTION OR REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF 2G ENGINEERING IS PROHIBITED.		DWG. NO. <b>2100R</b>		
		SIZE B THIRD ANGLE PROJECTION			SCALE: 2:3	
		INTERPRET GEOMETRIC DIMENSIONING & TOLERANCING PER ASME Y14.5-2009		SHEET 1 OF 5		



ALL CHARTS ARE SHOW PERFORMANCE AT 24 VDC.  
OPERATION AT OTHER VOLTAGES WILL IMPACT PERFORMANCE.

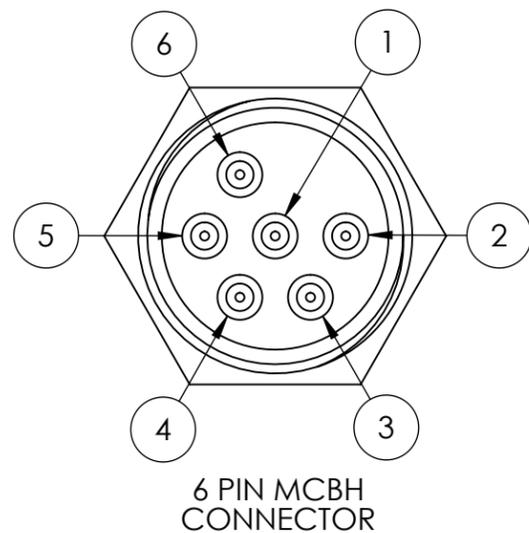
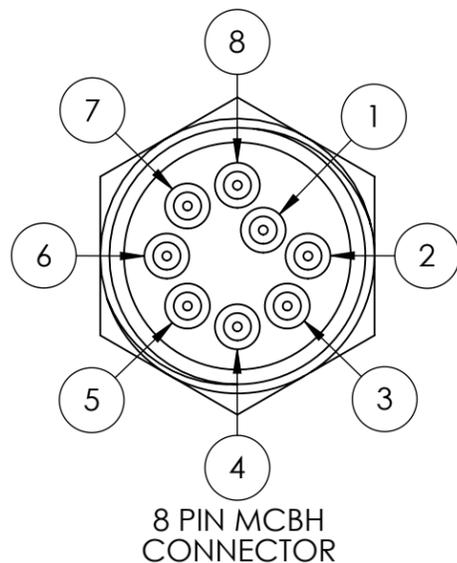
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FINISH:		SIZE B THIRD ANGLE PROJECTION	SCALE: 1:2		
			INTERPRET GEOMETRIC DIMENSIONING & TOLERANCING PER ASME Y14.5-2009		SHEET 2 OF 5

SERIES		OUTPUT		HOUSING MATERIAL		SHAFT STYLE		SHAFT DIAMETER*		SHAFT LENGTH*		COMMUNICATION		VOLTAGE	
2100R	SUBSEA	HT	HIGH TORQUE	SS	STAINLESS STEEL	K	KEYED	A	1/4"	0500	0.50"	6L	RS-232 AND RS-485, NON-ISOLATED	01	24 VDC NOMINAL (12-30 VDC RANGE)
		MT	MID TORQUE	AL	ALUMINUM	S	SQUARE	B	3/8"	0830	0.83"	8L	RS-232, RS-485, 0-10V ANALOG VOLTAGE CONTROL, NON-ISOLATED	05	48 VDC NOMINAL (20-55 VDC RANGE)
		HS	HIGH SPEED	TI	TITANIUM	F	FLAT	C	1/2"	1000	1.00"	8M	RS-232, CAN, 0-10V ANALOG VOLTAGE CONTROL, NON-ISOLATED	09	96 VDC NOMINAL (55-120 VDC RANGE)
										1500	1.50"	8R	RS-232 AND RS-485		
										2000	2.00"	8V	RS-232 AND 0-10V ANALOG VOLTAGE CONTROL		
												8C	RS-232 AND CAN		
												8E	RS-232 AND ETHERNET		

PIN	NON-ISOLATED AVAILABLE WITH ANY VOLTAGE OPTION.				ISOLATED AVAILABLE WITH -05 AND -09 VOLTAGE OPTIONS ONLY.			
	6L	8L	8M	8R	8V	8C	8E	
1	RS-232 TX	VIN -	VIN -	VIN -	VIN -	VIN -	VIN -	
2	RS-232 RX	VIN +	VIN +	VIN +	VIN +	VIN +	VIN +	
3	RS-485 -	0-10V ANALOG INPUT	0-10V ANALOG INPUT	N/C	N/C	N/C	RS-232 TX	
4	VIN +	0-10V ANALOG OUTPUT	0-10V ANALOG OUTPUT	COMMS GND	COMMS GND	COMMS GND	RS-232 RX	
5	VIN -	RS-232 TX	RS-232 TX	RS-232 TX	RS-232 TX	RS-232 TX	ETHERNET TX+	
6	RS-485 +	RS-232 RX	RS-232 RX	RS-232 RX	RS-232 RX	RS-232 RX	ETHERNET TX-	
7	N/A	RS-485 +	CAN HI	RS-485 +	0-10V ANALOG INPUT	CAN HI	ETHERNET RX+	
8	N/A	RS-485 -	CAN LO	RS-485 -	0-10V ANALOG OUTPUT	CAN LO	ETHERNET RX-	

STANDARD SHAFT OPTIONS*			
CODE	STYLE	DIAMETER	LENGTH
FC1500	FLAT	0.500"	1.500"
KC1500	KEYED	0.500"	1.500"
KC2000	KEYED	0.500"	2.000"
SB0830	SQUARE	0.375"	0.830"

\* HIGH TORQUE UNITS REQUIRE A SHAFT SIZE OF AT LEAST 1/2" DIAMETER OR 3/8" SQUARE, AND AT LEAST 0.83" LENGTH.



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[CLICK HERE FOR USER MANUAL AND COMMUNICATION PROTOCOL INFORMATION.](#)



TITLE: 2100 SERIES ROTARY ACTUATOR

SIZE B THIRD ANGLE PROJECTION  
INTERPRET GEOMETRIC DIMENSIONING & TOLERANCING PER ASME Y14.5-2009

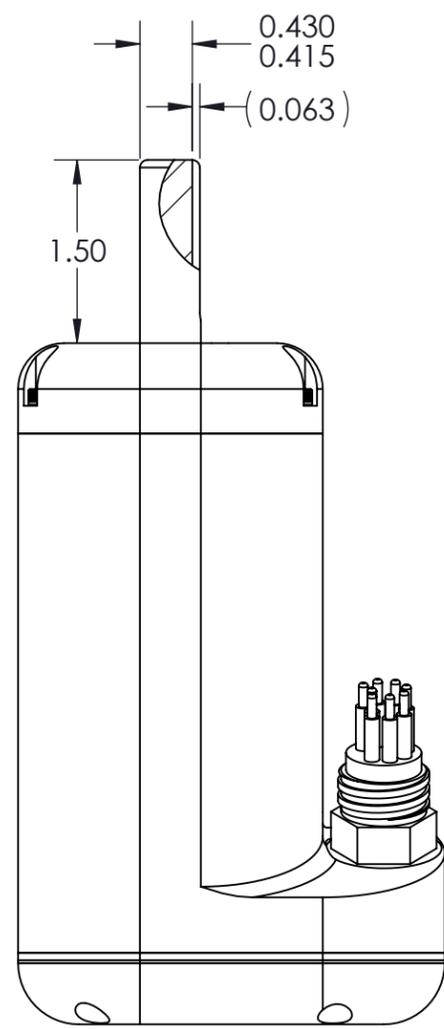
DWG. NO. 2100R  
SCALE: 2:1  
SHEET 3 OF 5

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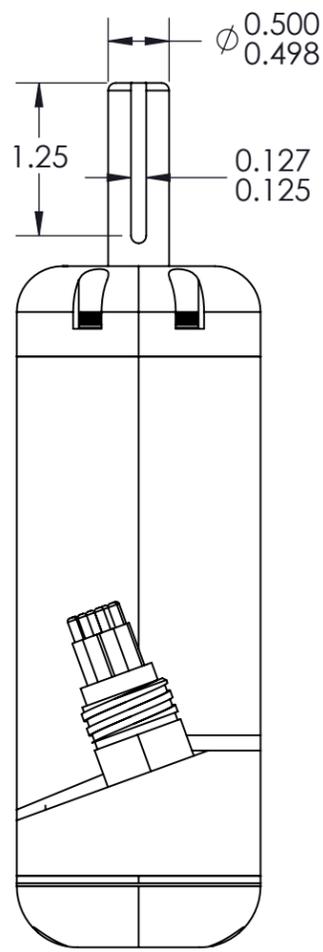
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B

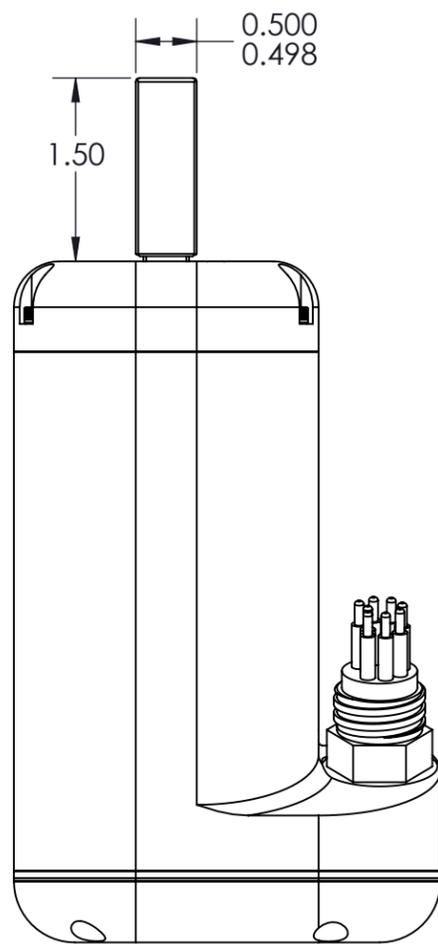
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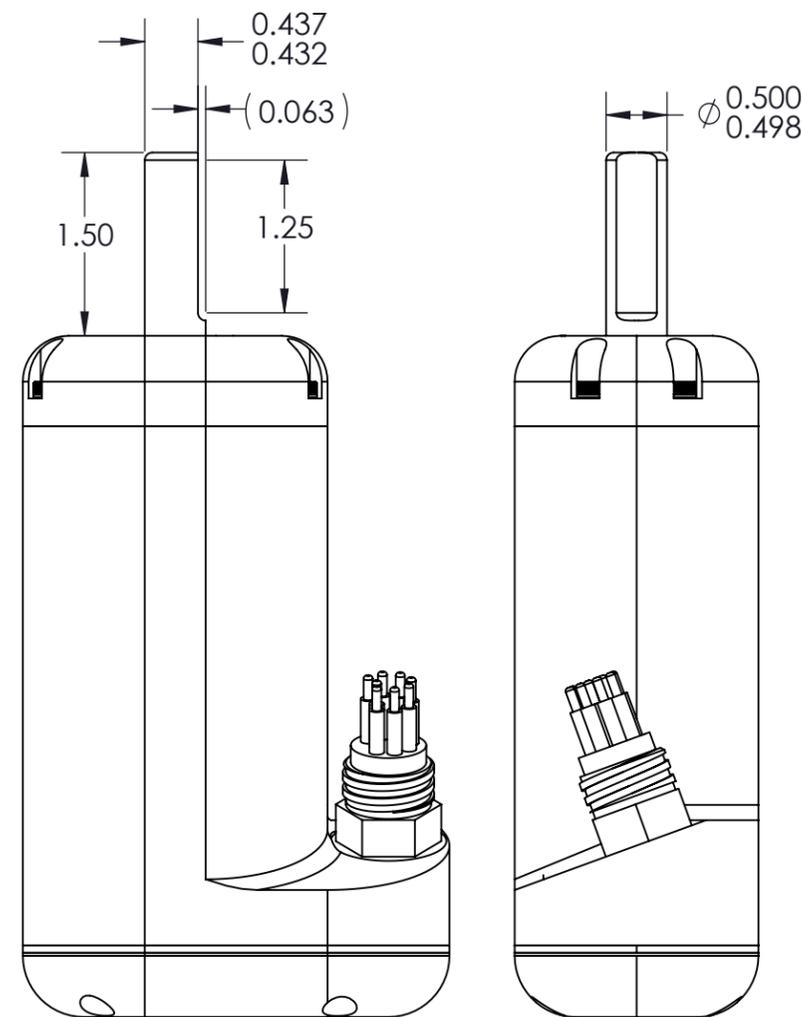
**KEYED SHAFT  
KC1500**



**SQUARE SHAFT  
SC1500**



**FLAT SHAFT  
FC1500**



MATERIAL:

-

MATERIAL COMMENTS:

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SIZE B

THIRD ANGLE PROJECTION



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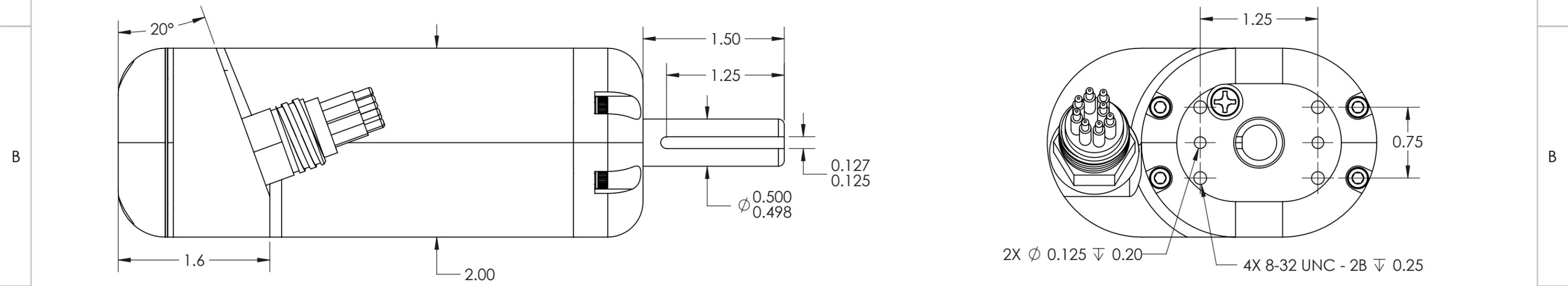
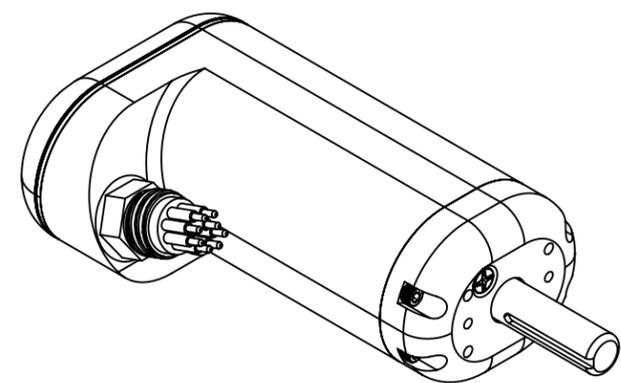
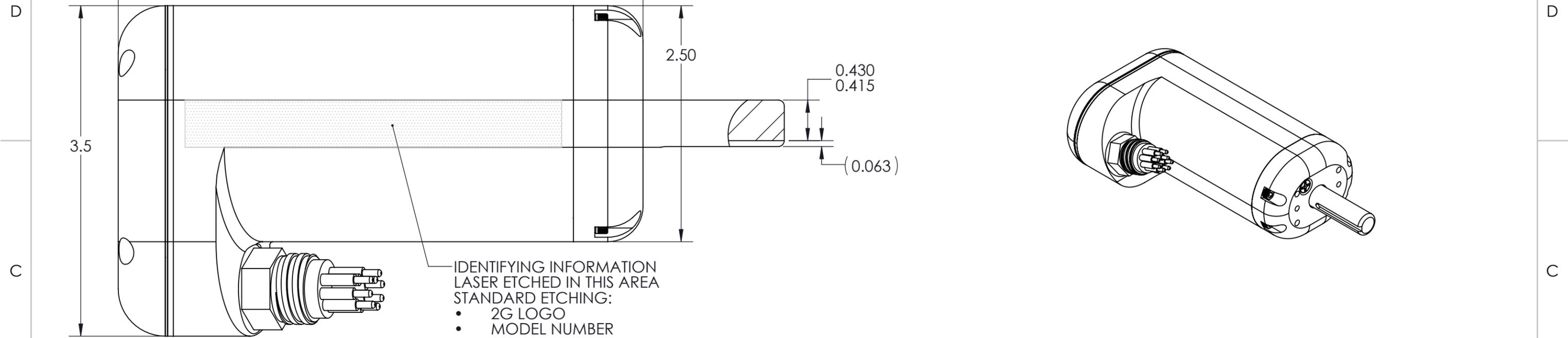
**2100R**

SCALE: 2:3

REV. B

SHEET 4 OF 5

6 5 4 3 2



APPROXIMATE WEIGHTS (LBS)	STAINLESS	ALUMINUM	TITANIUM
DRY/SURFACE	5.4	3.2	3.8
WET/SUBMERGED	4.4	2.2	2.8

MATERIAL: -

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SIZE **B** THIRD ANGLE PROJECTION

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2100RHS-SSSB0830-8R01

DWG. NO. **2100R** SCALE: 1:1 SHEET 5 OF 5

REV. **B**

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