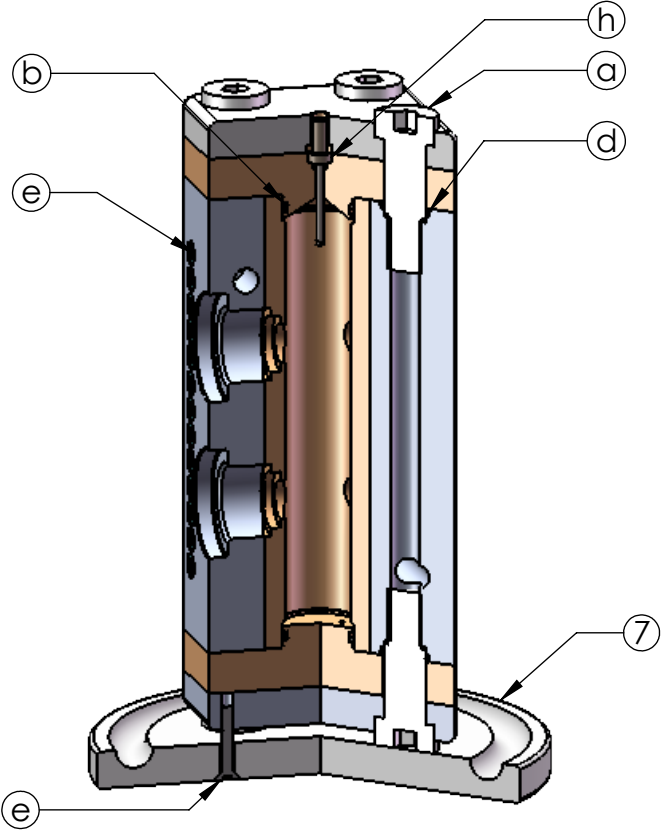
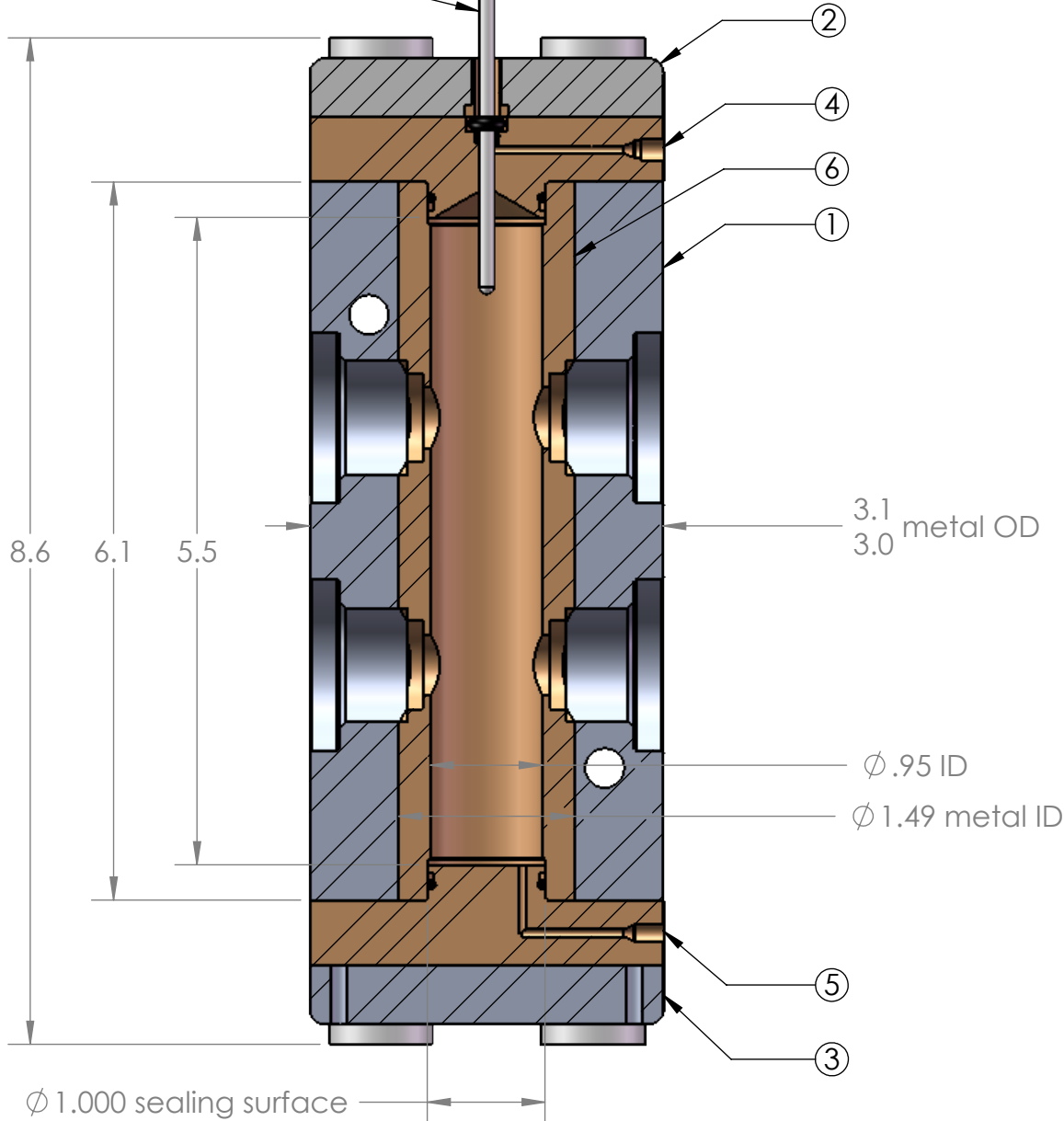


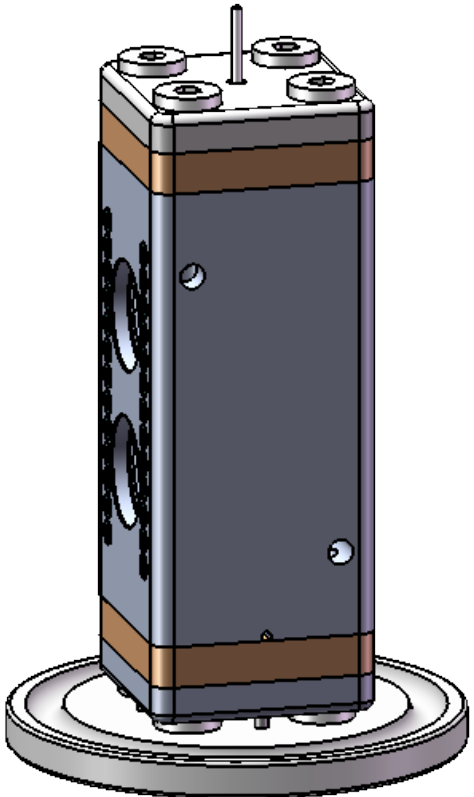
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ

Titanium 10km SBE 38 thermistor probe



Cut-away View



ASSEMBLY

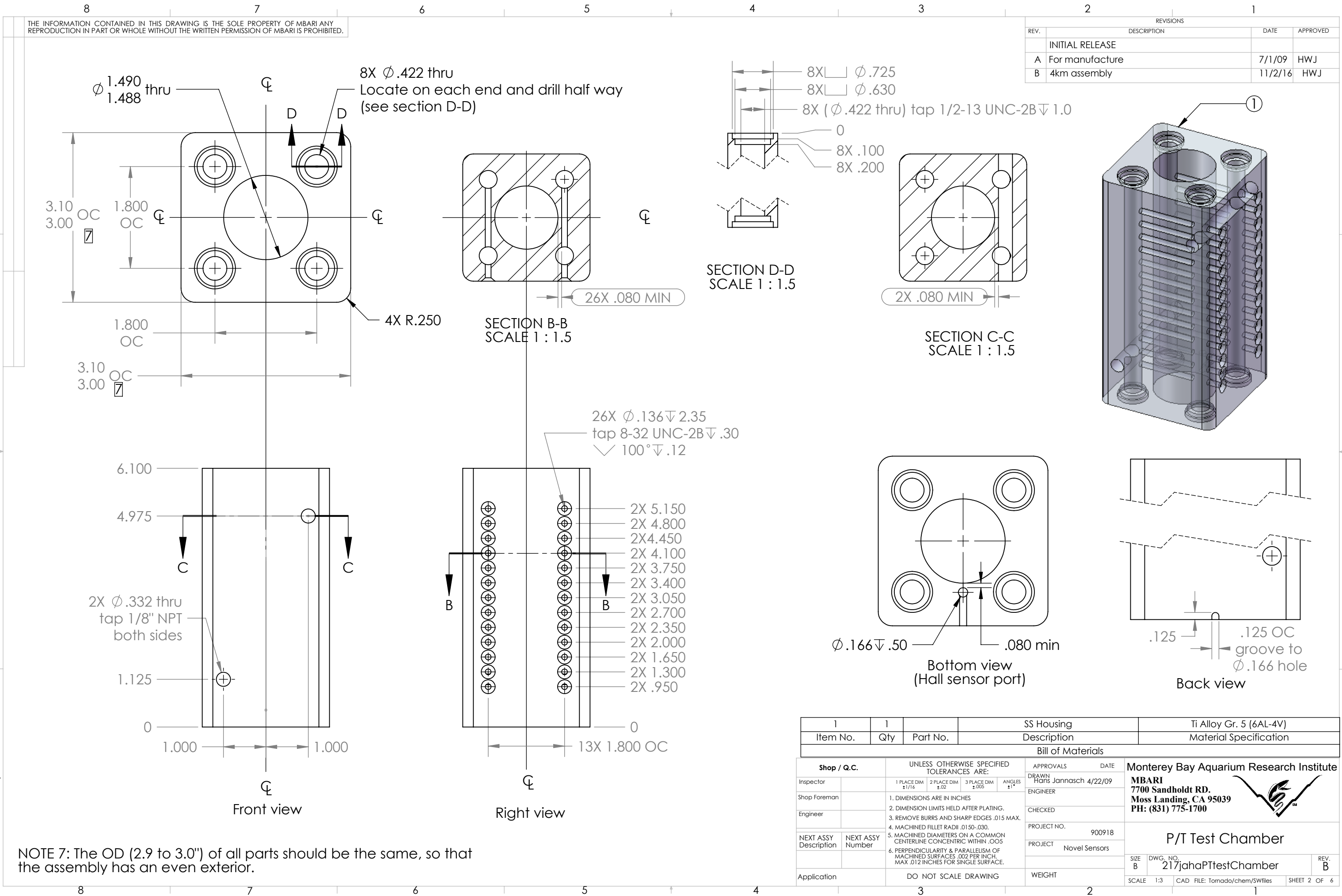
Item No.	Qty	Part No.	Description	Material Specification
j	1		10km Ti Temp Probe	From SBE30 Digital Thermometer
i	2 sets		Upchurch fittings for 1/16" PEEK tubing	LT-110 PEEK nut & LT-135 ferrule
h	1		Viton O-ring (D90) w/Parbak	Viton D90 2-T04
g	1		Swagelock fitting	SS-200-T-4ST (bored thru)
f	26		SS 8-32x.25 sealing flathead screw	McMaster PN# 98070A310
e	4		SS Flathead screw	SS 8-32 x 1" flathead screw
d	8		O-ring	2-016
c	4		Viton O-ring (D90)	Viton D90 2-016
b	2		Viton O-ring (D90) w/Parbak	Viton D90 2-020
a	8		SS Shoulder Screw	McMaster PN#90298A794
A1	1		Parts #1 and 6 press fit together	
8	1		Insulator	PEEK
7	1		Stand	PVC
6	1		PEEK Liner	PEEK Rod
5	1		Endcap (Bottom)	PEEK
4	1		Endcap (Top)	PEEK
3	1		Endcap retainer (Bottom)	Ti Alloy Gr. 5 (6AL-4V)
2	1		Endcap retainer (Top)	Ti Alloy Gr. 5 (6AL-4V)
1	1		PT Housing	Ti Alloy Gr. 5 (6AL-4V)

Bill of Materials			
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	APPROVALS DATE
Inspector		1 PLACE DIM $\pm 1/16$	DRAWN Hans Jannasch 4/22/09
Shop Foreman		2 PLACE DIM $\pm .02$	ENGINEER
Engineer		3 PLACE DIM $\pm .005$	CHECKED
NEXT ASSY Description	NEXT ASSY Number	ANGLES $\pm 1^\circ$	PROJECT NO. 900918
		1. DIMENSIONS ARE IN INCHES	PROJECT Novel Sensors
		2. DIMENSION LIMITS HELD AFTER PLATING.	WEIGHT
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.	
		4. MACHINED FILLET RADII .0150-.030.	
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005	
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.	
Application		DO NOT SCALE DRAWING	

Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

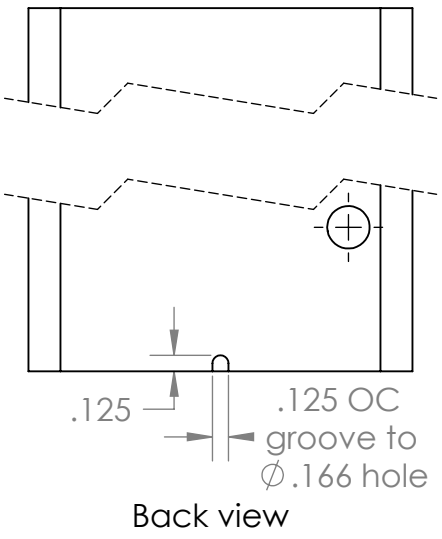
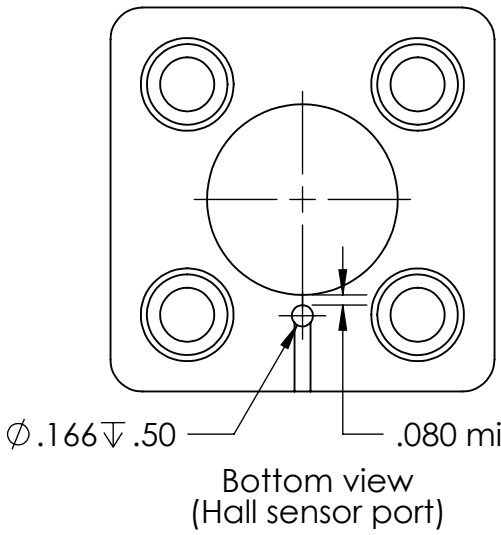
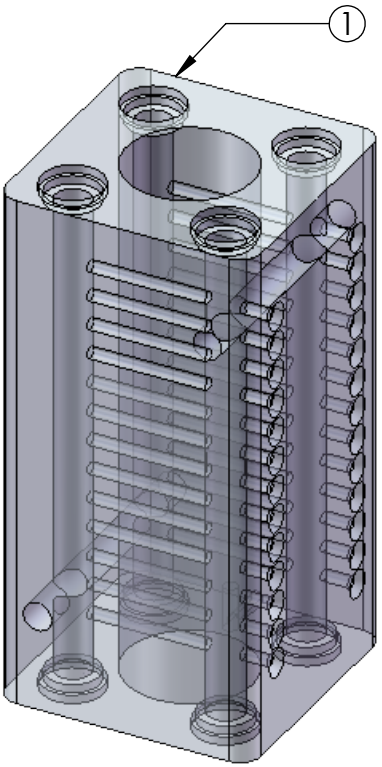
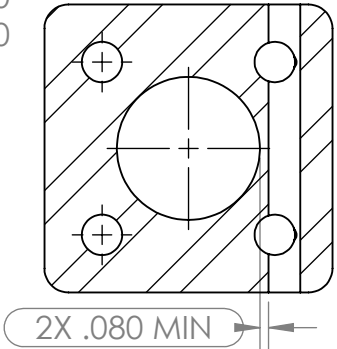
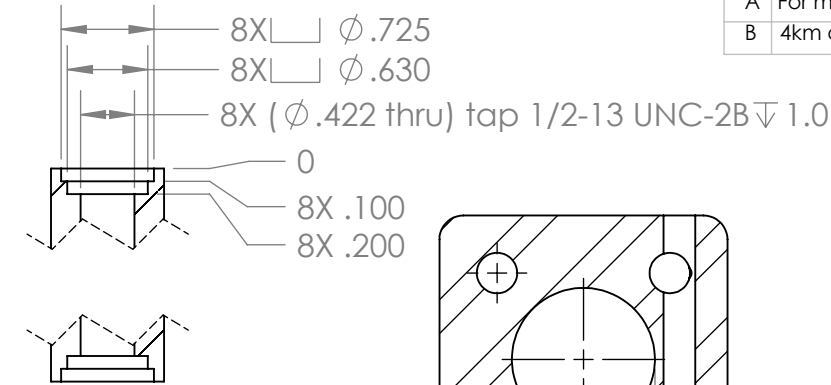
P/T Test Chamber

SIZE B	DWG. NO. 217jahaPTtestChamber	REV. B
SCALE 1:3	CAD FILE: Tornado/chem/SWfiles	SHEET 1 OF 6



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ



1		1		SS Housing		Ti Alloy Gr. 5 (6AL-4V)	
Item No.		Qty	Part No.	Description		Material Specification	
Bill of Materials							
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS DATE	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 4/22/09	
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER	
Engineer						CHECKED	
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO. 900918	
						PROJECT Novel Sensors	
Application		DO NOT SCALE DRAWING				WEIGHT	
						SIZE B DWG. NO. 217jahaPTtestChamber REV. B	
		SCALE 1:3		CAD FILE: Tornado/chem/SWfiles		SHEET 2 OF 6	

Monterey Bay Aquarium Research Institute

MBARI

7700 Sandholdt RD.

Moss Landing, CA 95039

PH: (831) 775-1700

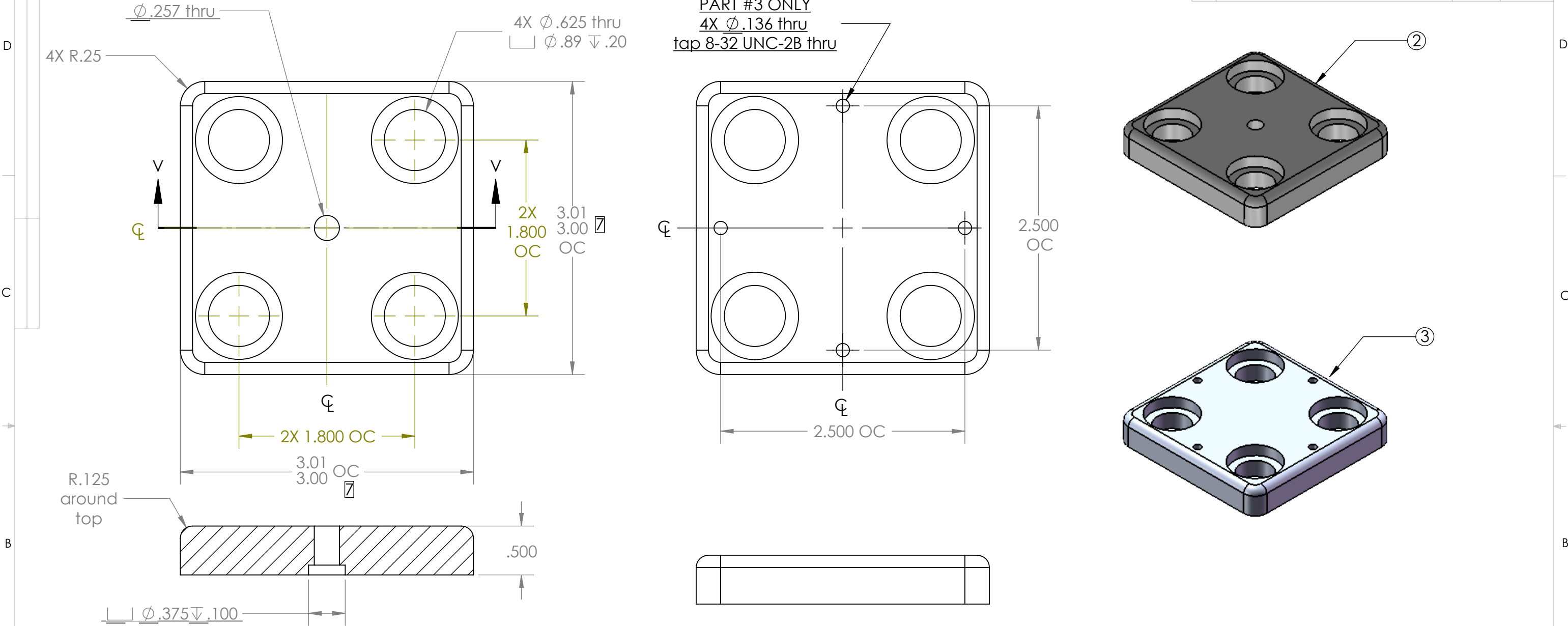


P/T Test Chamber

NOTE 7: The OD (2.9 to 3.0") of all parts should be the same, so that the assembly has an even exterior.

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ



NOTE:
The only difference between Parts #2 and #3 are:
1) The center counterbored thru-hole (only in Part #2) and
2) The 4X #8 mounting holes (only in Part #3).
The dimensions for these features are underlined.

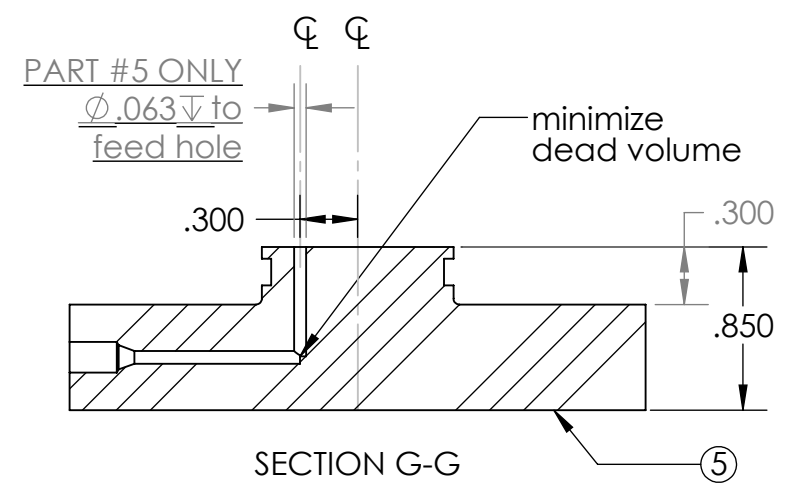
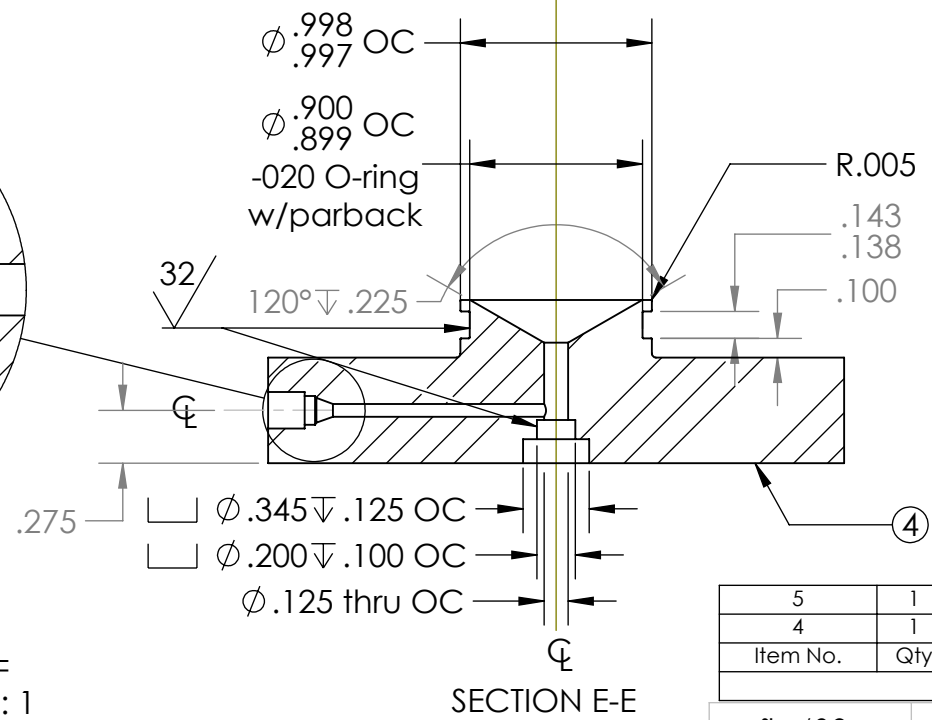
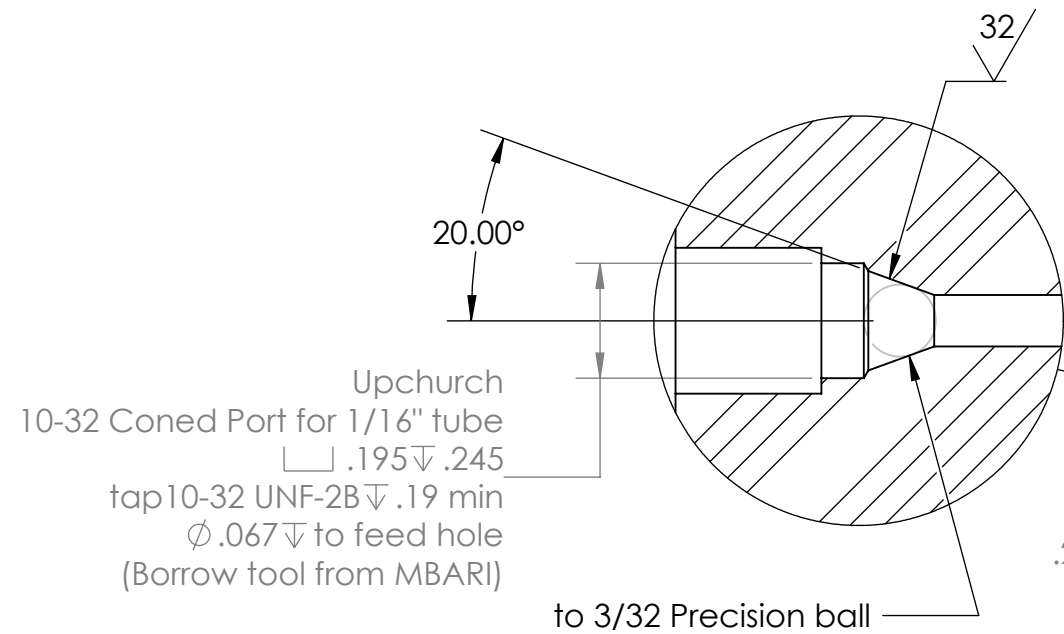
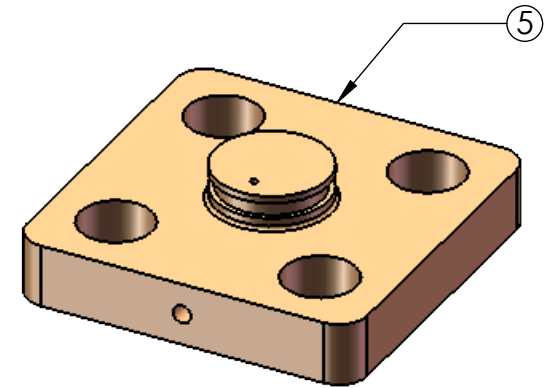
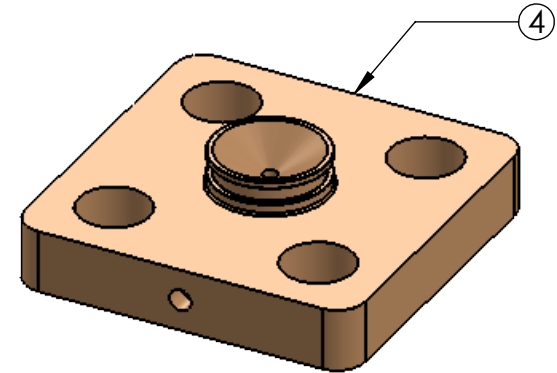
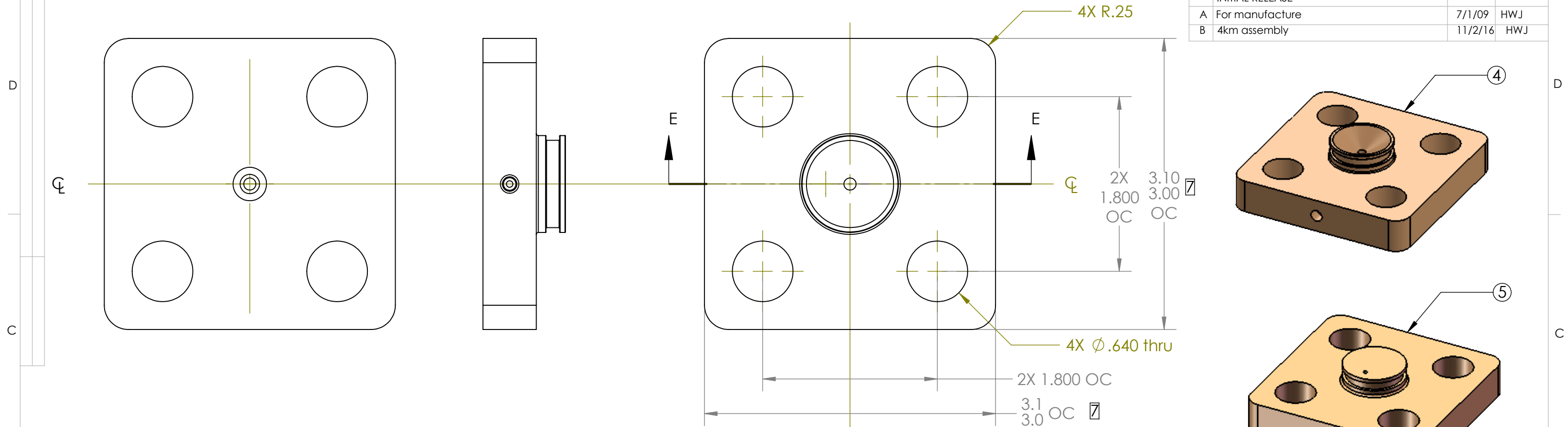
NOTE 7: The OD (3.0 to 3.1") of all parts should be the same, so that the assembly has an even exterior.

All dimensions for both parts
except as noted

3	1		Endcap retainer (Bottom)	Ti Alloy Gr. 5 (6AL-4V)
2	1		Endcap retainer (Top)	Ti Alloy Gr. 5 (6AL-4V)
Item No.	Qty	Part No.	Description	Material Specification
Bill of Materials				
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS DATE
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005
Shop Foreman		1. DIMENSIONS ARE IN INCHES		ENGINEER
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.		CHECKED
NEXT ASSY Description		NEXT ASSY Number		PROJECT NO. 900918
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.		PROJECT Novel Sensors
		4. MACHINED FILLET RADII .0150-.030.		
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005		
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.		
Application		DO NOT SCALE DRAWING		WEIGHT

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ



NOTE:
The only difference between Parts #4 and #5 are:
1) The center thermistor port (only in Part #4)
2) The debubbling 120° countersink (only in Part #4)
3) The off-center fill port (only in Part #5).
The dimensions for these features are underlined.

NOTE 7: The OD (2.9 to 3.0") of all parts should be the same, so that the assembly has an even exterior.

5	1		Endcap (Bottom)	PEEK			
4	1		Endcap (Top)	PEEK			
Item No.	Qty	Part No.	Description	Material Specification			
Bill of Materials							
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS DATE			
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 4/22/09	
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER	
Engineer						CHECKED	
NEXT ASSY Description						NEXT ASSY Number	
				PROJECT Novel Sensors			
Application		DO NOT SCALE DRAWING		WEIGHT	SIZE B DWG. NO. 217jahaPTtestChamber		REV. B
					SCALE 1:3 CAD FILE: Tornado/chem/SWfiles		SHEET 4 OF 6

Monterey Bay Aquarium Research Institute

MBARI

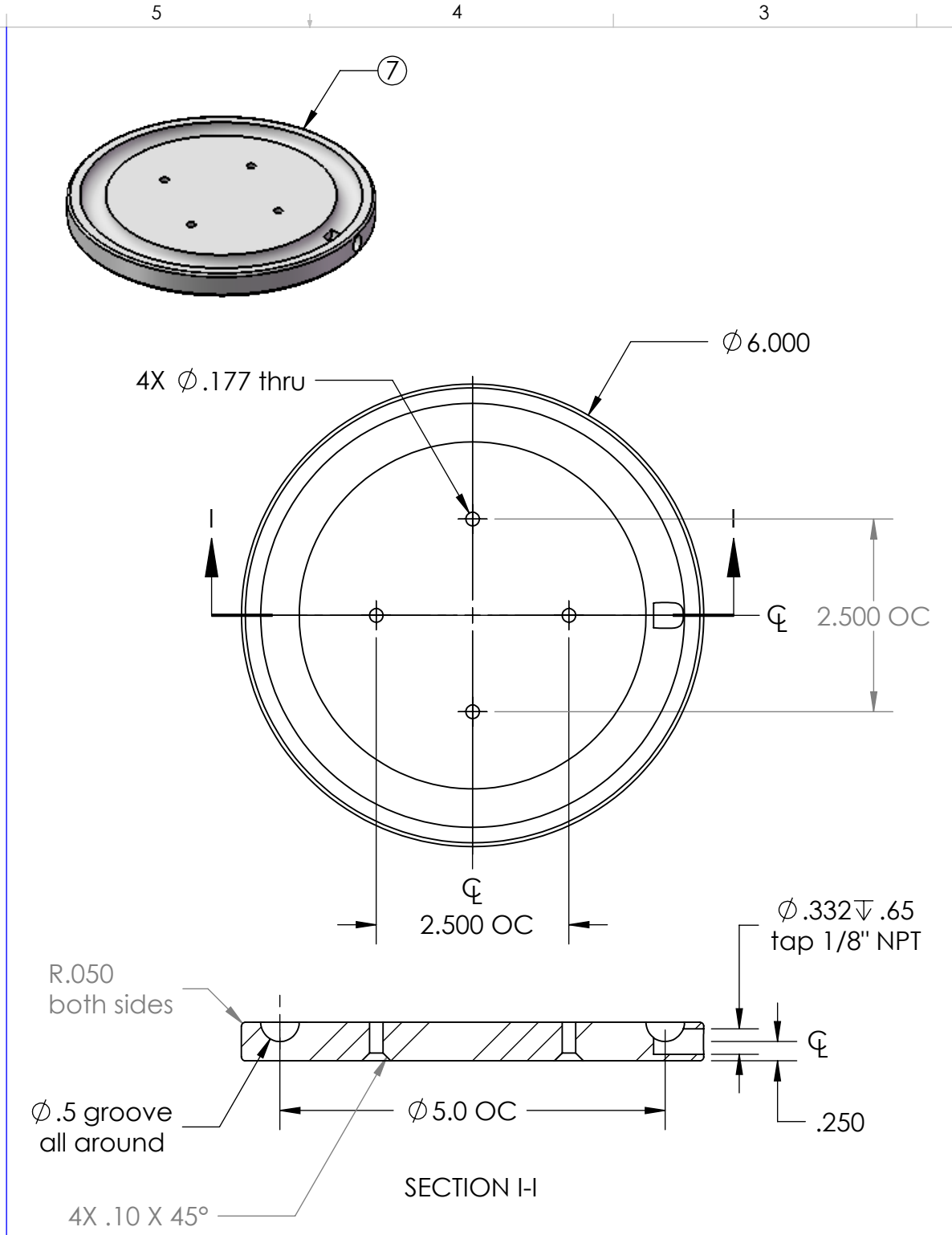
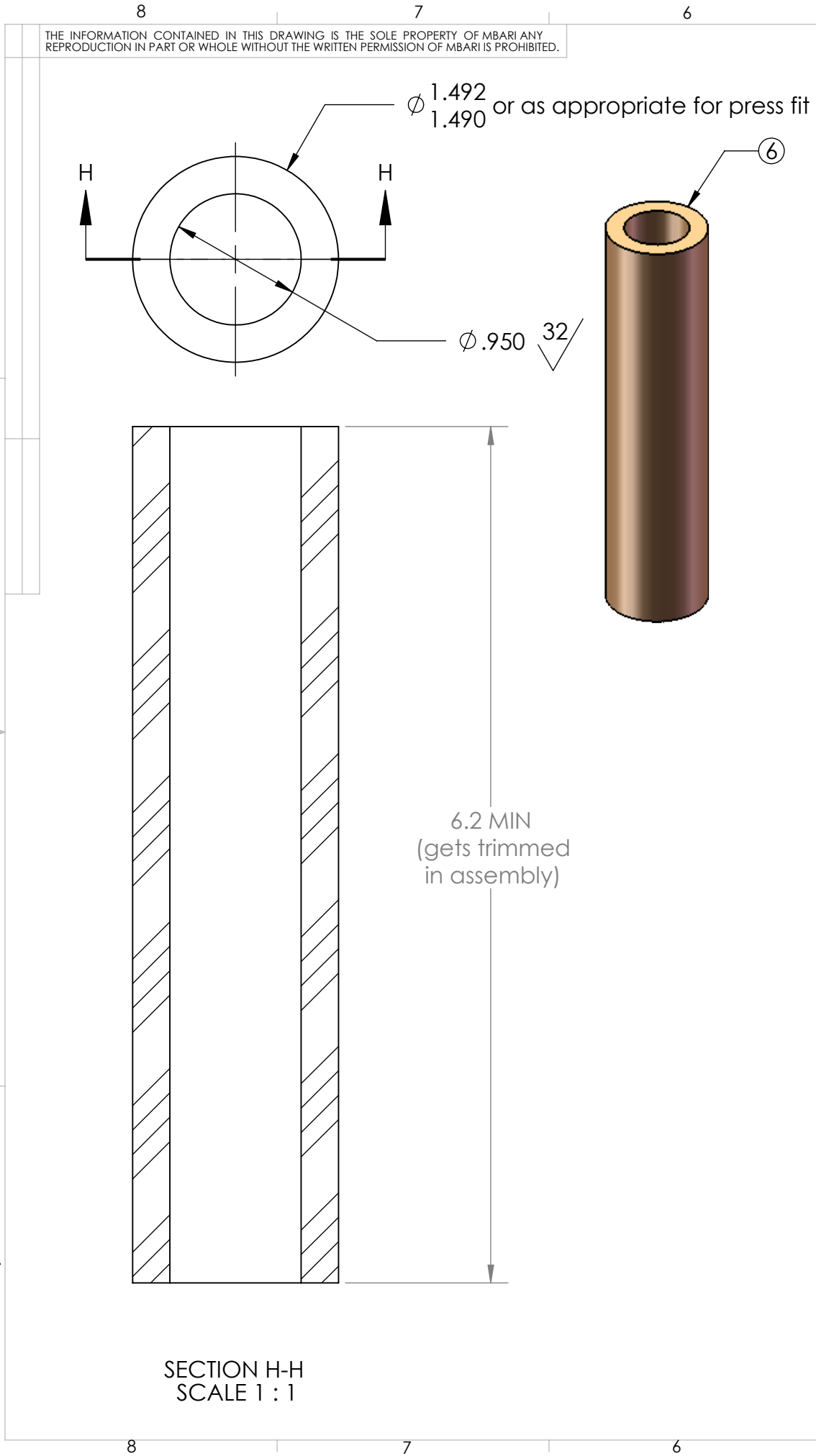
7700 Sandholdt RD.

Moss Landing, CA 95039

PH: (831) 775-1700



P/T Test Chamber



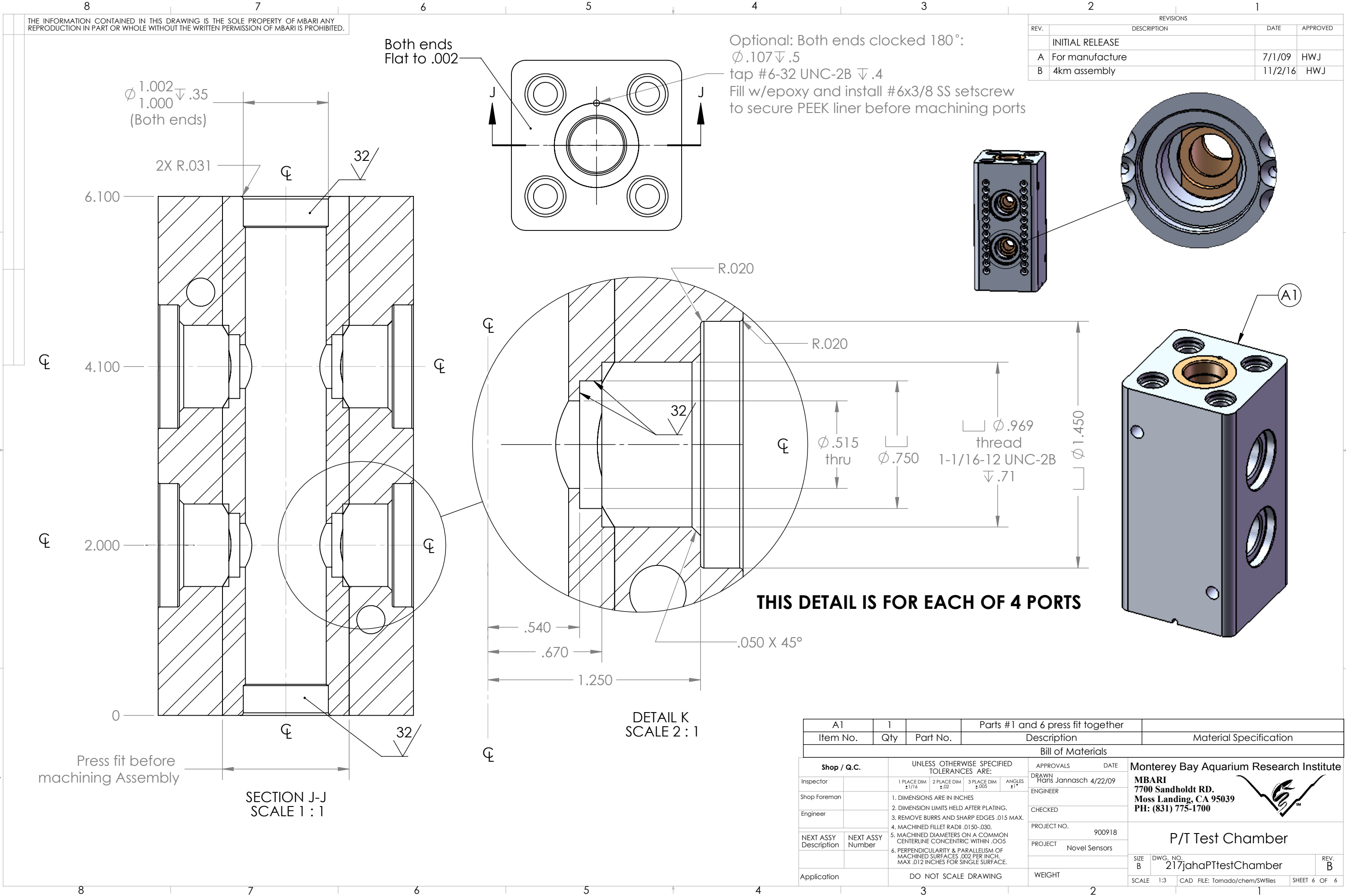
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ

SECTION I-I

8			Insulator	PEEK
7			Stand	PVC
6			PEEK Liner	PEEK Rod
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials				
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	DATE Hans Jannasch 4/22/09
Shop Foreman		3 PLACE DIM ±.005	ANGLES ±1°	ENGINEER
Engineer		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.		
NEXT ASSY Description	NEXT ASSY Number	CHECKED		
		PROJECT NO. 900918		
		PROJECT Novel Sensors		
Application		WEIGHT		

DO NOT SCALE DRAWING				
Monterey Bay Aquarium Research Institute				
MBARI				
7700 Sandholdt RD.				
Moss Landing, CA 95039				
PH: (831) 775-1700				
P/T Test Chamber				
SIZE B	DWG. NO. 217jahaPTtestChamber	REV. B		
SCALE 1:3	CAD FILE: Tornado/chem/SWfiles	SHEET 5 OF 6		



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	For manufacture	7/1/09	HWJ
B	4km assembly	11/2/16	HWJ

Optional: Both ends clocked 180°:
Ø.107 ∇ .5
tap #6-32 UNC-2B ∇ .4
Fill w/epoxy and install #6x3/8 SS setscrew
to secure PEEK liner before machining ports

THIS DETAIL IS FOR EACH OF 4 PORTS

A1		1	Parts #1 and 6 press fit together			
Item No.	Qty	Part No.	Description		Material Specification	
Bill of Materials						
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS	DATE
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 4/22/09
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				CHECKED
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.				
		4. MACHINED FILLET RADII .0150-.030.				PROJECT NO. 900918
NEXT ASSY Description	NEXT ASSY Number	5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005				PROJECT Novel Sensors
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.				
Application		DO NOT SCALE DRAWING			WEIGHT	
		3		2		

Monterey Bay Aquarium Research Institute			
MBARI			
7700 Sandholdt RD.			
Moss Landing, CA 95039			
PH: (831) 775-1700			
P/T Test Chamber			
SIZE B	DWG. NO. 217jahaPTtestChamber	REV. B	
SCALE 1:3	CAD FILE: Tornado/chem/SWfiles	SHEET 6 OF 6	
		1	