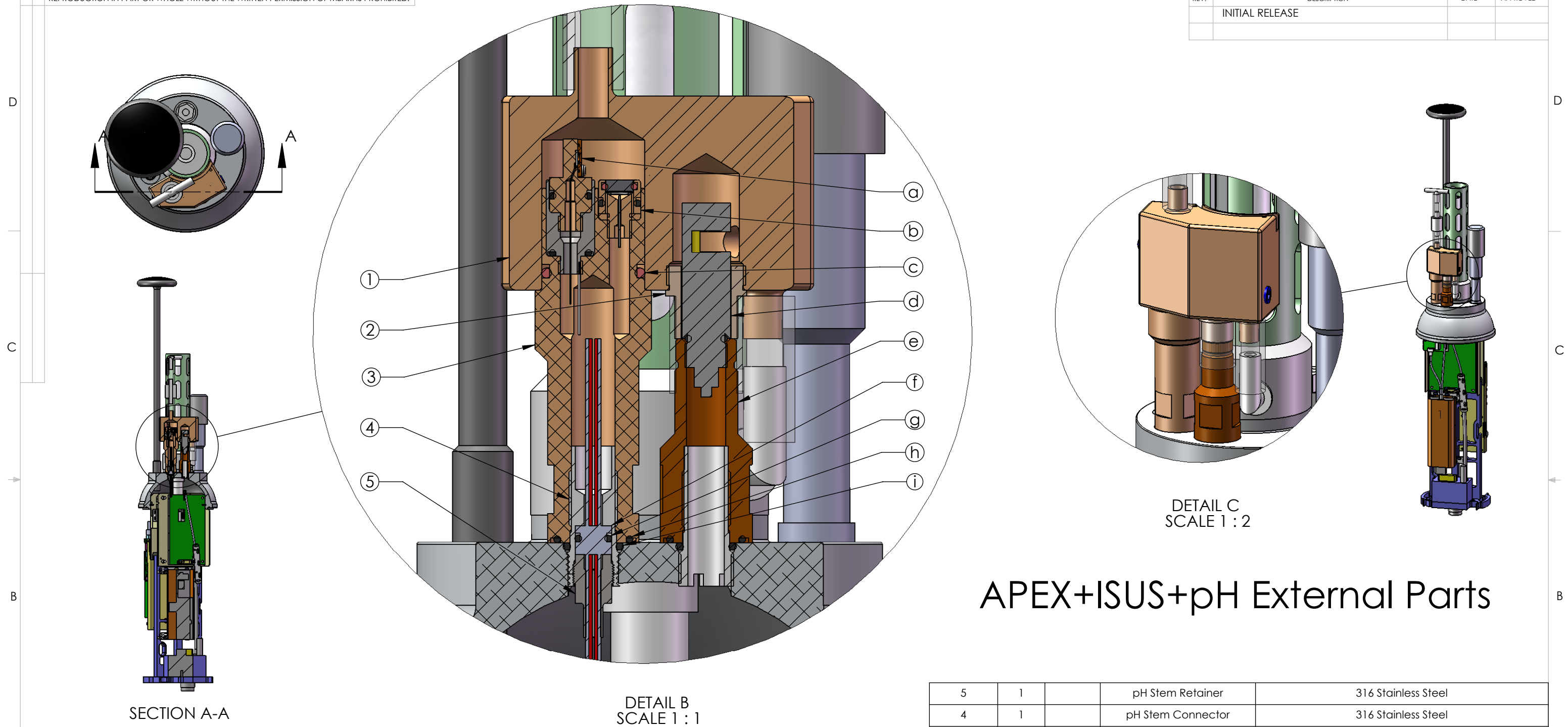




i	1		O-ring	3-906 Viton 90
h	1		O-ring	2-017 Viton 75
g	1		O-ring	2-010 Viton 75
f	1		Pressure Feed-through	Pave Technology Co PN:1632
e	1		Nitrate Stem (Ver2)	per 253jaha...dwg
d	1		Nitrate Probe	per xxxjaha...dwg
c	1		O-ring	2-118 Silicone
b	1		Reference	per 242jaha...dwg
a	1		DuraFET & CE	per 242jaha...dwg
Item No.	Qty	Part No.	Description	Material Specification

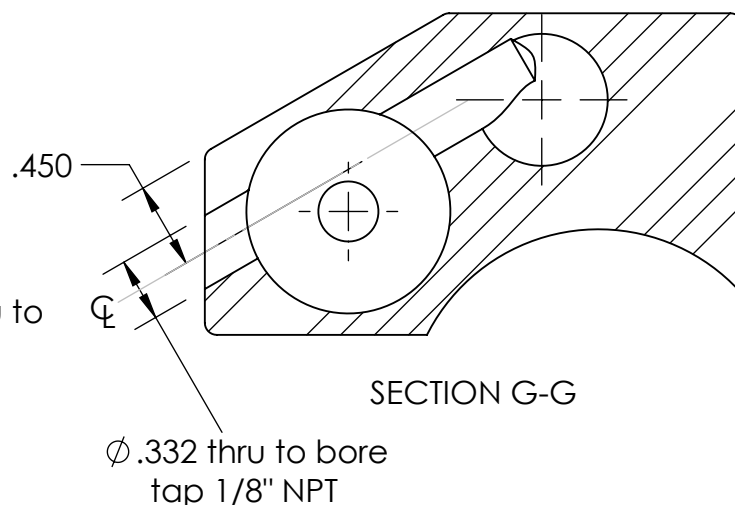
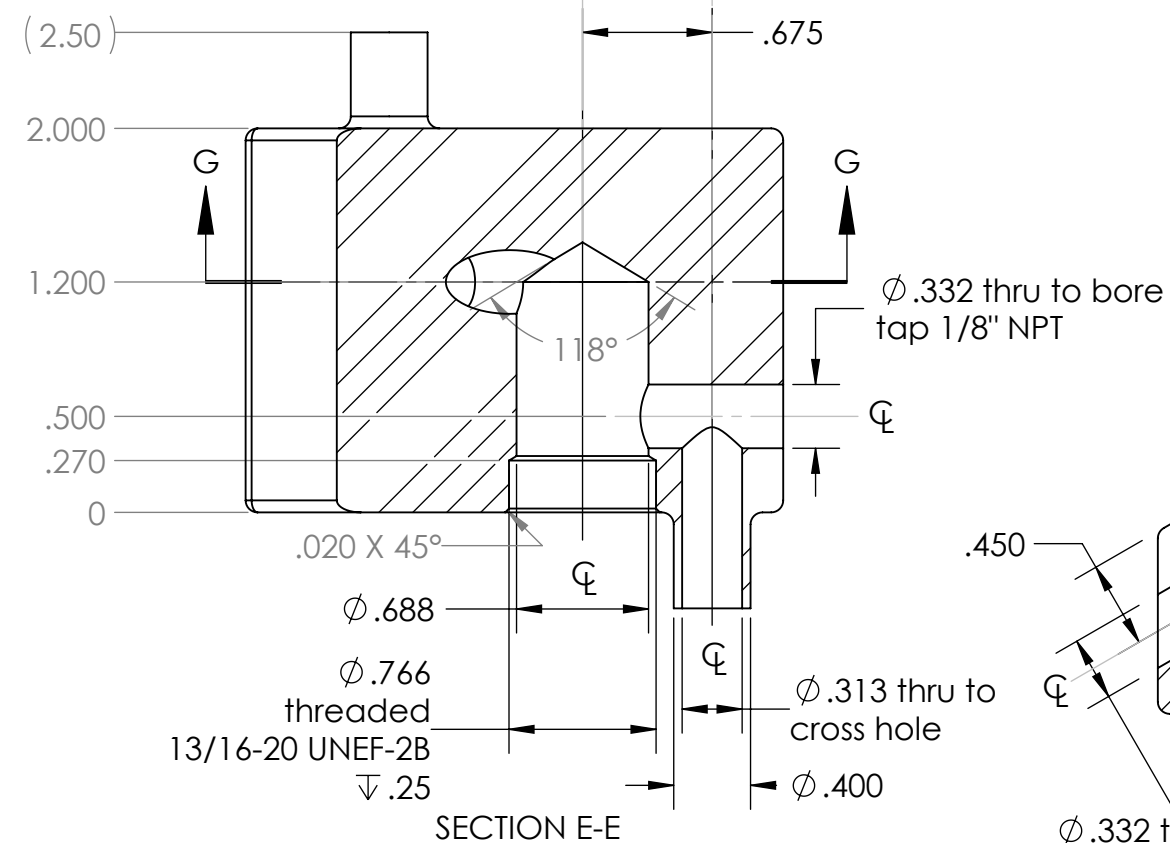
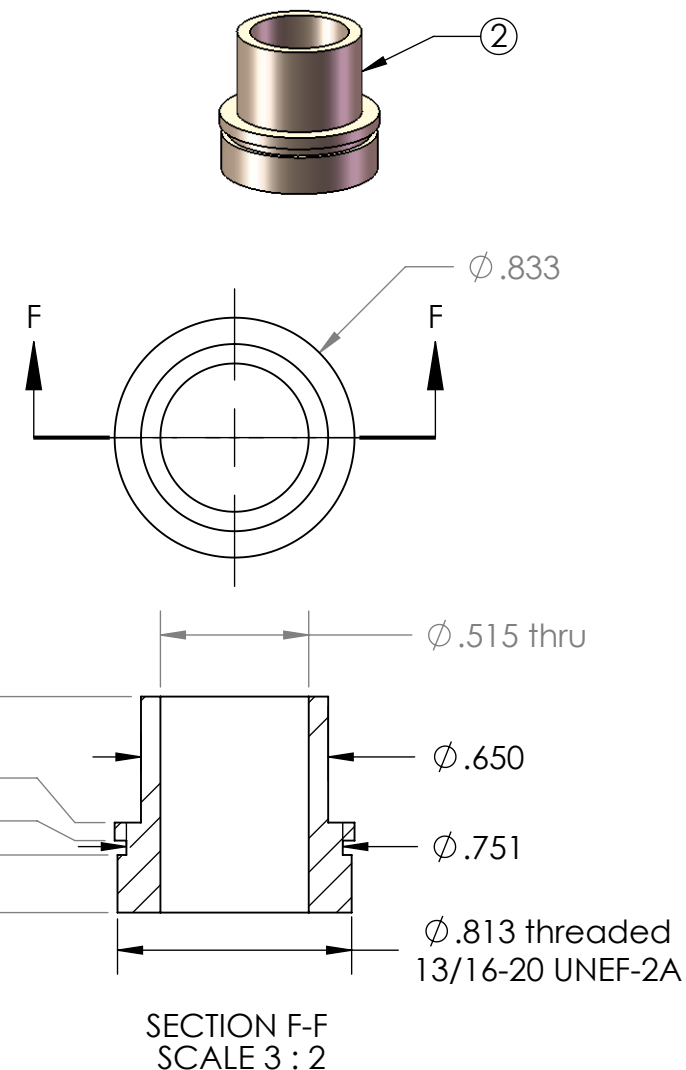
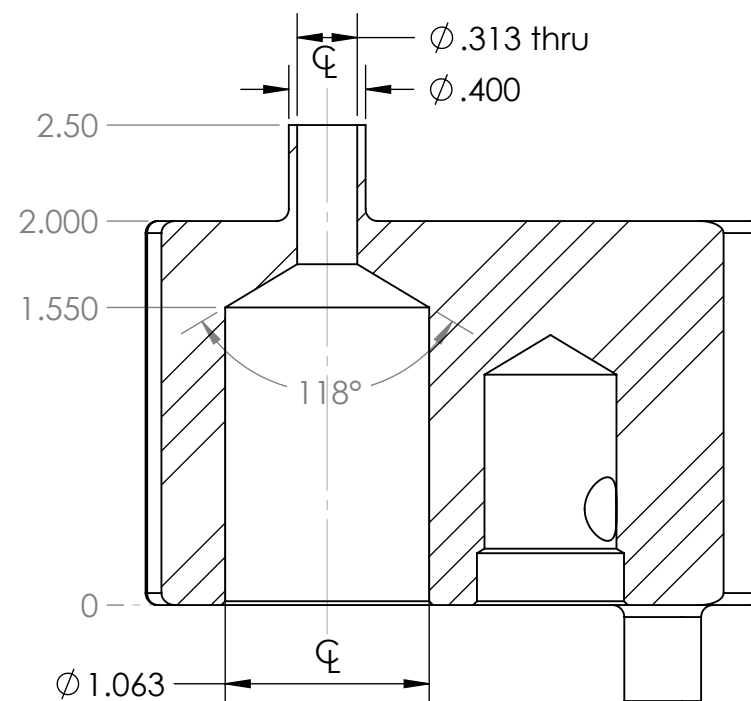
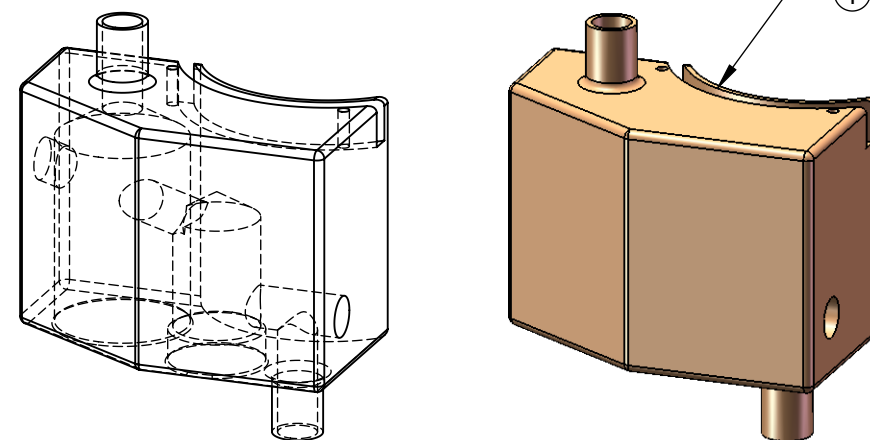
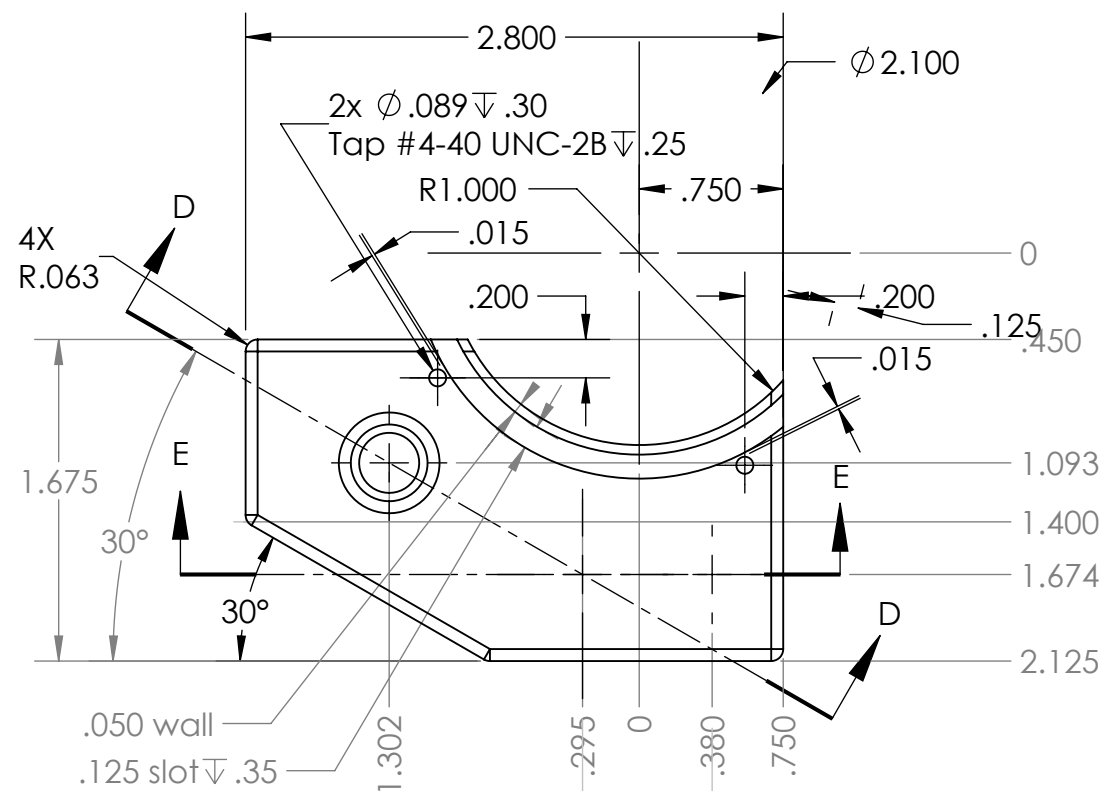
Bill of Materials

5	1		pH Stem Retainer	316 Stainless Steel
4	1		pH Stem Connector	316 Stainless Steel
3	1		PNA Stem	PEEK (natural)
2	1		Flowcell Tube Fitting	PEEK (natural)
1	1		Flowcell	PEEK (natural)
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 APEX+ISUS+pH External Parts	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 7/24/12	ENGINEER			
Shop Foreman		1. DIMENSIONS ARE IN INCHES					CHECKED			
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.					PROJECT NO. 901218			
NEXT ASSY Description	NEXT ASSY Number	3. REMOVE BURRS AND SHARP EDGES .015 MAX.					PROJECT Chem Sensors			
		4. MACHINED FILLET RADII .0150-.030.					WEIGHT	SCALE 1:3		
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005						DWG. NO. 252jaha-APEX+ISUS+pHexternals		REV.
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.						CAD FILE: Tornado/chem/SWfiles		SHEET 1 OF 4
Application		DO NOT SCALE DRAWING								

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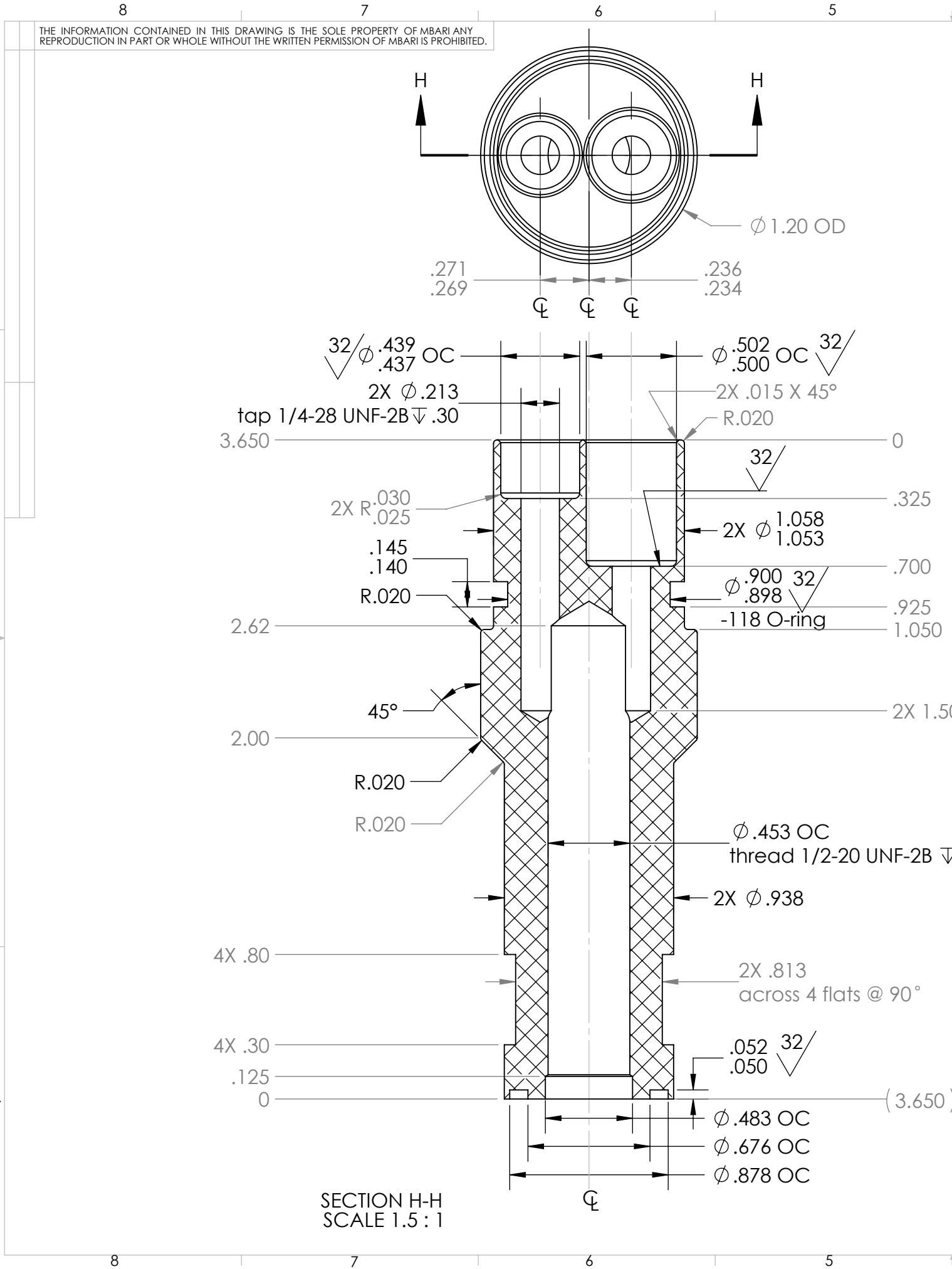


NOTE 7: Part #2 should screw snugly into Part #1

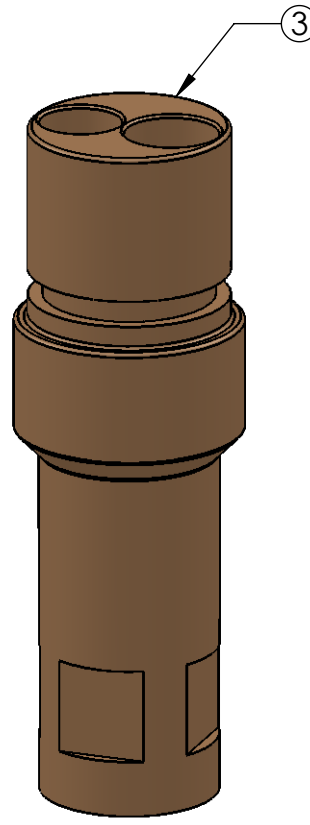
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		

2	1		Flowcell Tube Fitting	PEEK (natural)
1	1		Flowcell	PEEK (natural)
Item No.	Qty	Part No.	Description	Material Specification
Bill of Materials				

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		Monterey Bay Aquarium Research Institute			
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch		7/24/12					
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.		901218					
						PROJECT		Chem Sensors					
Application		DO NOT SCALE DRAWING				WEIGHT				SIZE B DWG. NO. 252ja-APEX+ISUS+pHexternal REV.			
										SCALE 1:3 CAD FILE: Tomado/chem/SWfiles SHEET 2 OF 2			

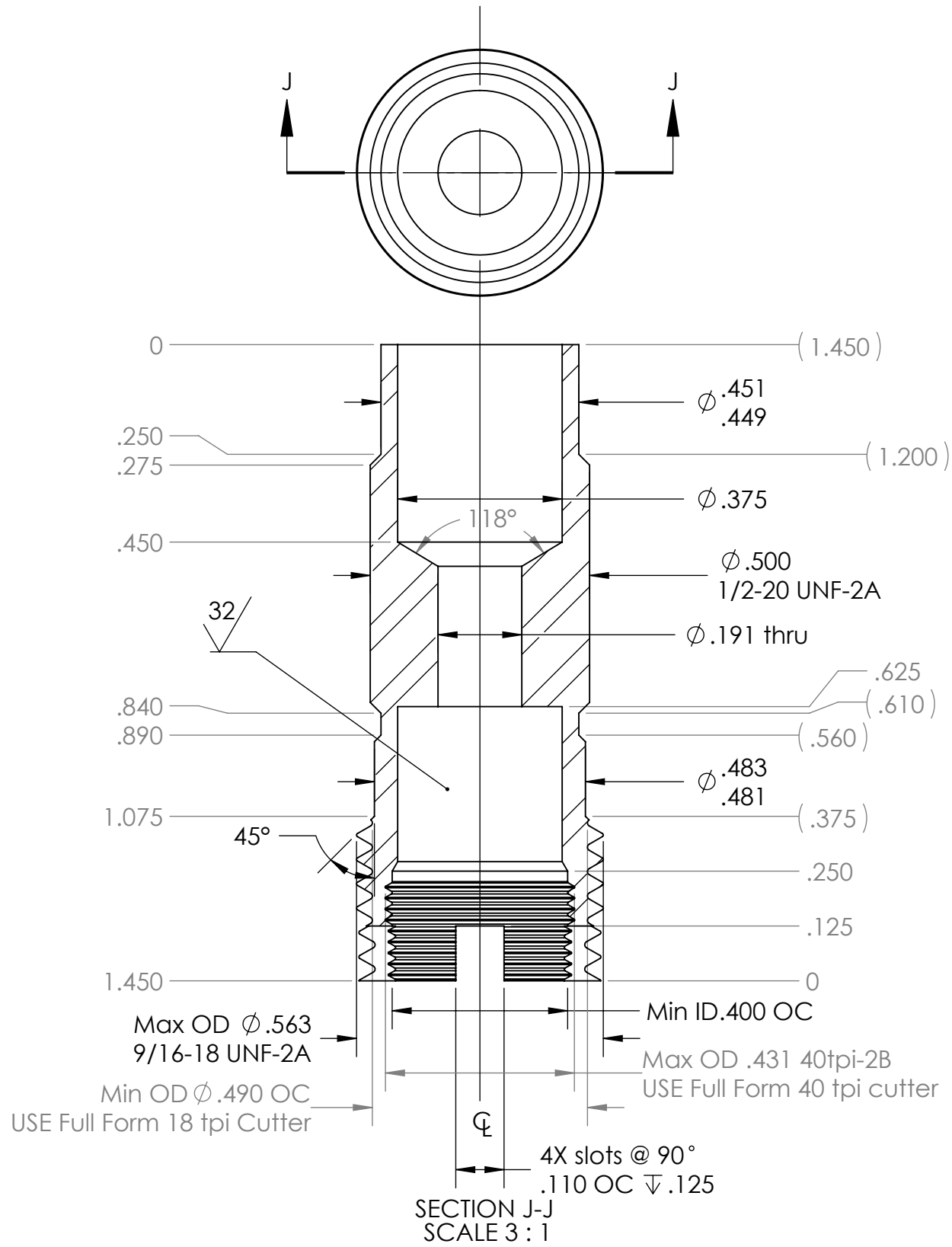


Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE	Monterey Bay Aquarium Research Institute			
Inspector		1 PLACE DIM $\pm 1/16$	2 PLACE DIM $\pm .02$	3 PLACE DIM $\pm .005$	ANGLES $\pm 1^\circ$	DRAWN	Hans Jannasch	7/24/12	MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700			
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER						
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				CHECKED			APEX+ISUS+pH External Parts			
NEXT ASSY Description	NEXT ASSY Number	3. REMOVE BURRS AND SHARP EDGES .015 MAX.				PROJECT NO.	901218					
		4. MACHINED FILLET RADII .0150-.030.				PROJECT	Chem Sensors		SIZE B DWG. NO. 252jaha-APEX+ISUS+pHexternals REV.			
		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.							SCALE 1:3 CAD FILE: Tornado/chem/SWfiles SHEET 3 OF 4			
Application		DO NOT SCALE DRAWING				WEIGHT						

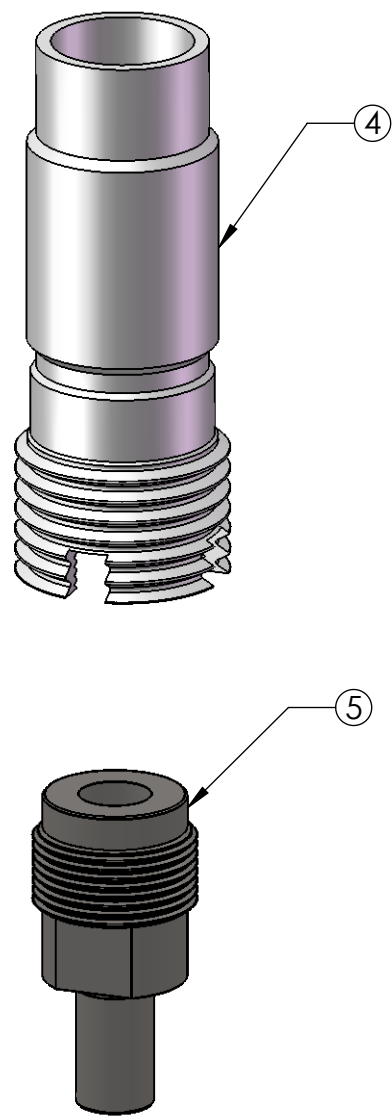
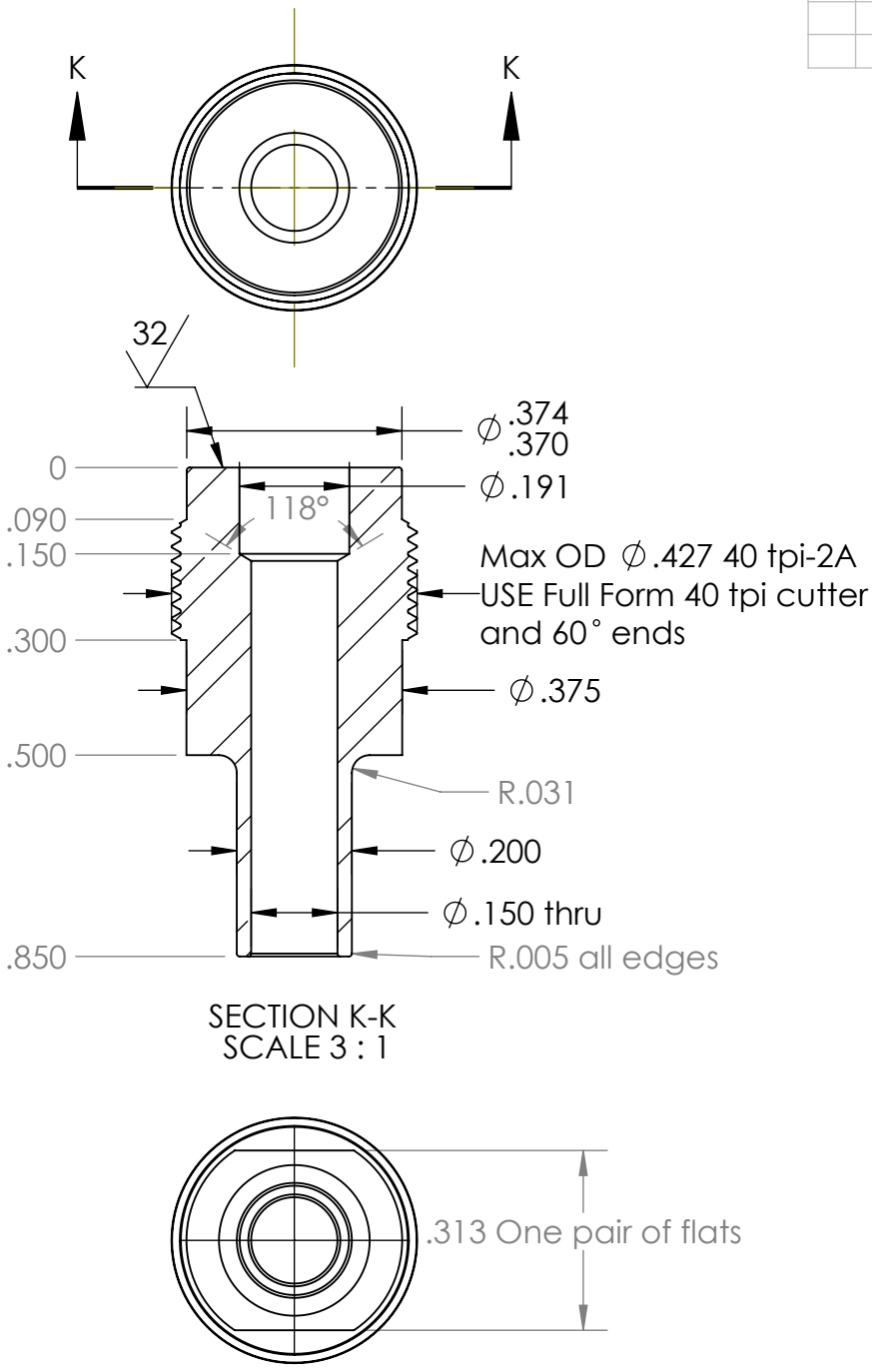


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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		



NOTE 7: Parts 4 and 5 should screw together snugly
NOTE 8: Use full form thread cutters, e.g.:
18tpi: Sandvic 266RG-16UN03A180m
40tpi: Sandvic CXS-04TH070MM-4215R



5	1		pH Stem Retainer	316 Stainless Steel								
4	1		pH Stem Connector	316 Stainless Steel								
Item No.	Qty	Part No.	Description	Material Specification								
Bill of Materials												
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS DATE		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700  APEX+ISUS+pH External Parts					
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 7/24/12						
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER						
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030.				CHECKED						
NEXT ASSY Description	NEXT ASSY Number	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.				PROJECT NO. 901218						
						PROJECT Chem Sensors						
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B		DWG. NO. 252jaha-APEX+ISUS+pHexternals		REV.
								SCALE 1:3		CAD FILE: Tornado/chem/SWfiles		SHEET 4 OF 4