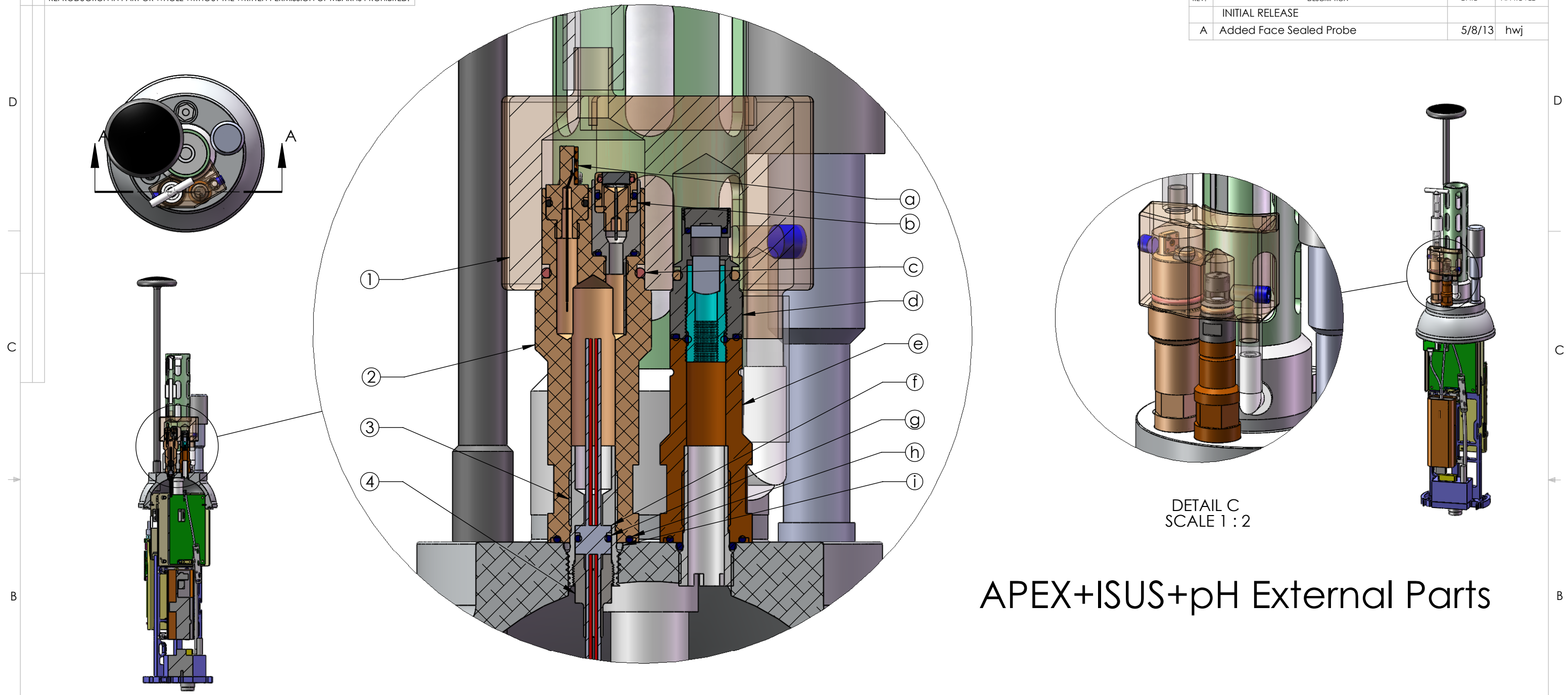




SECTION A-A

DETAIL B
SCALE 1 : 1

DETAIL C
SCALE 1 : 2

APEX+ISUS+pH External Parts

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

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

Bill of Materials

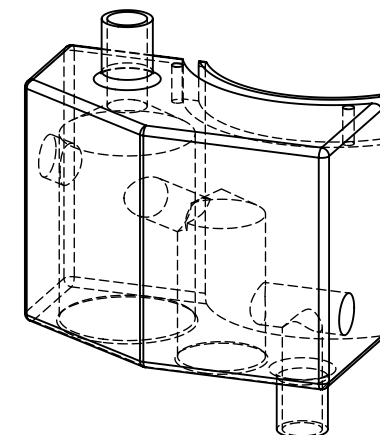
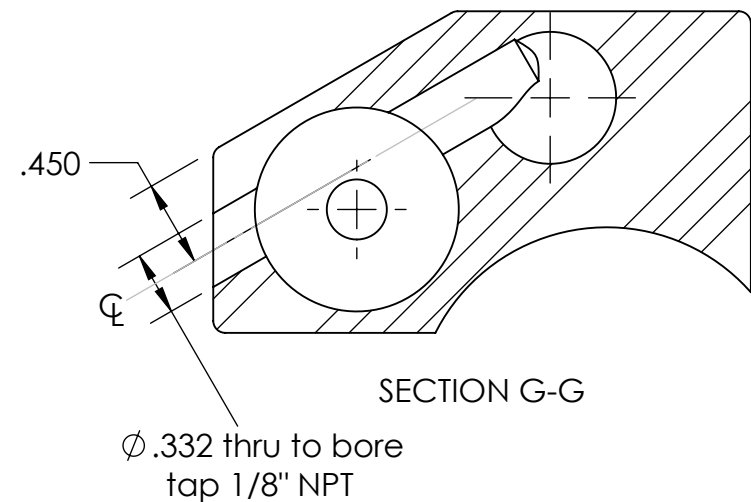
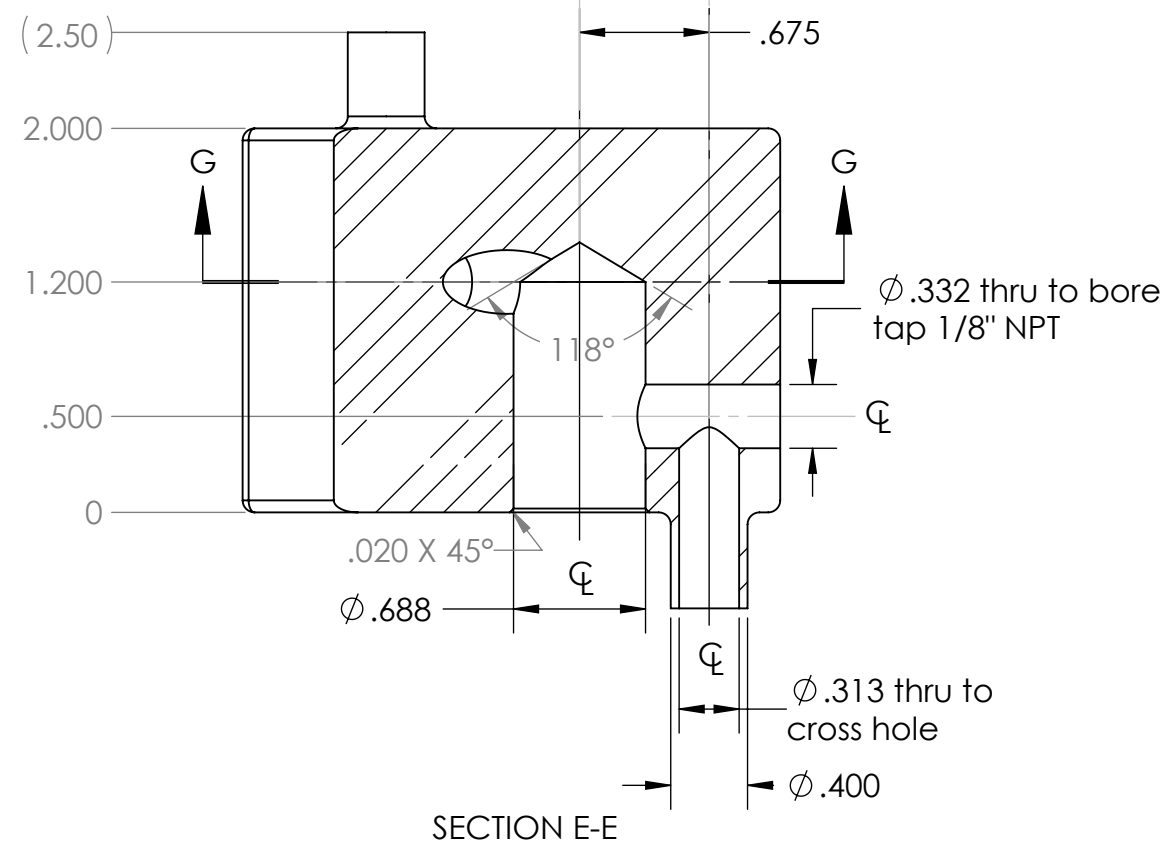
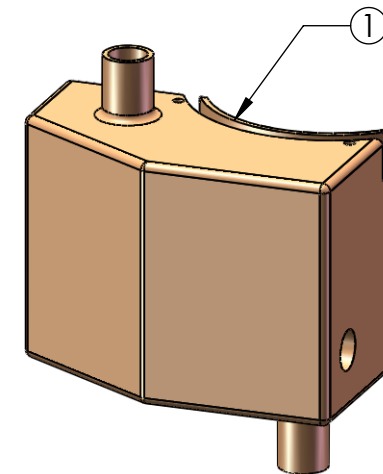
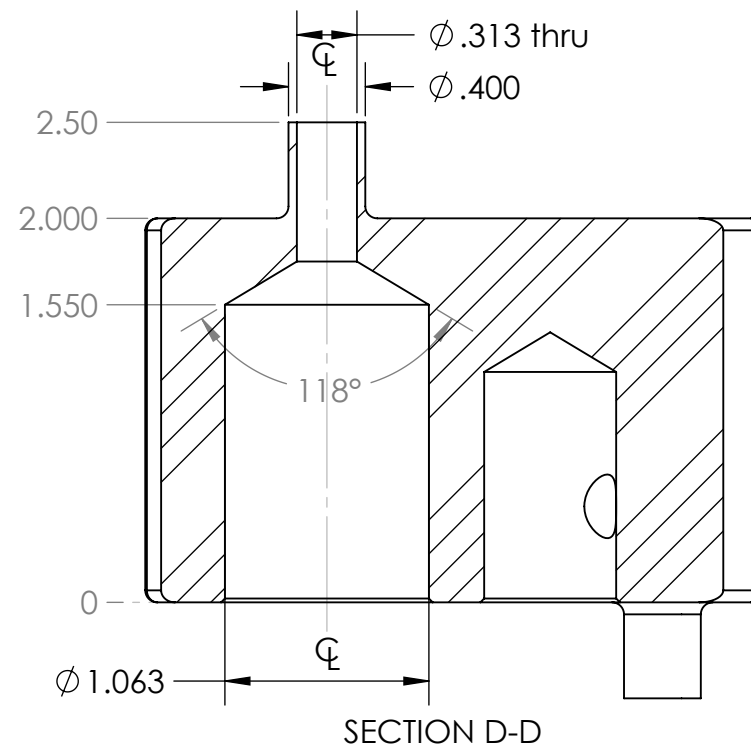
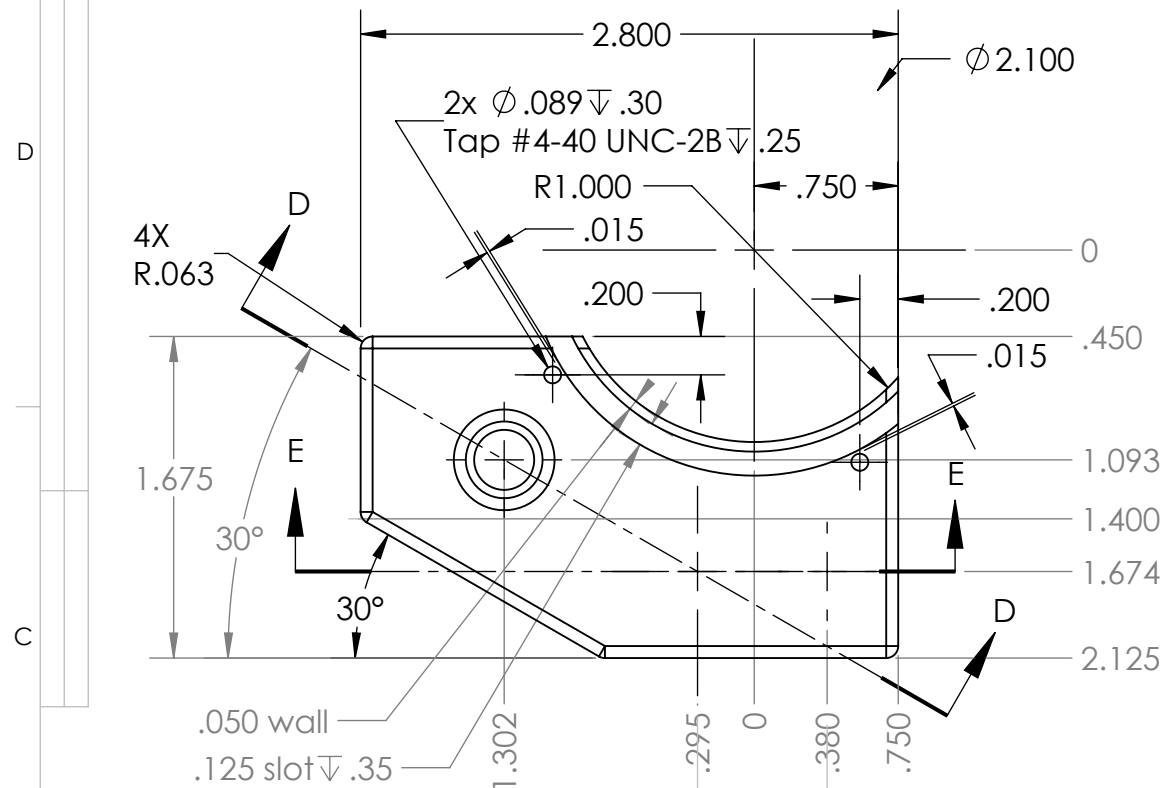
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS	DATE	Monterey Bay Aquarium Research Institute	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	Hans Jannasch 7/24/12
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER	
Engineer		2. DIMENSION LIMITS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

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

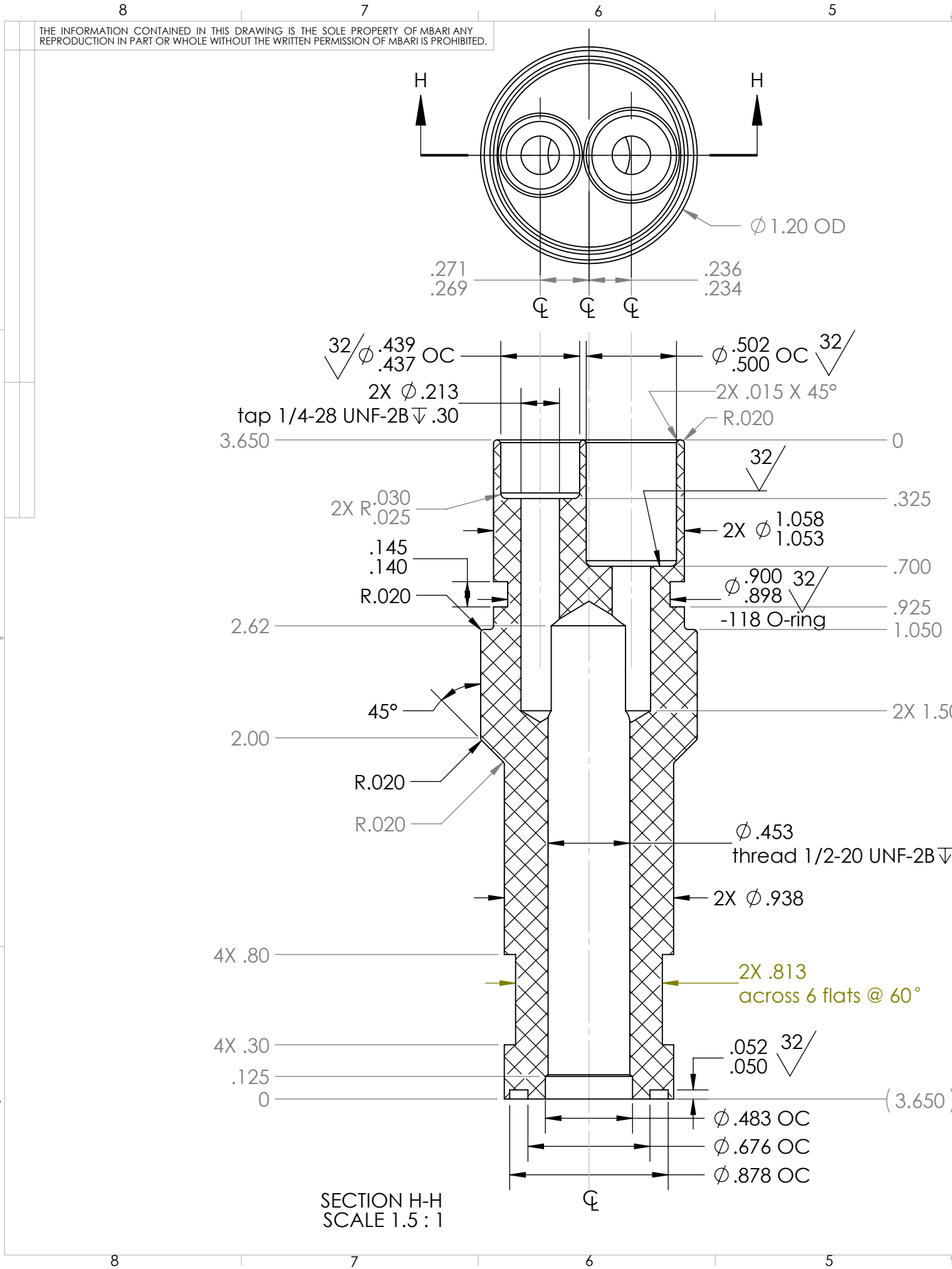
SCALE 1:3 CAD FILE: Tornado/chem/SWfiles SHEET 1 OF 4

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	Added Face Sealed Probe	5/8/13	hwj



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

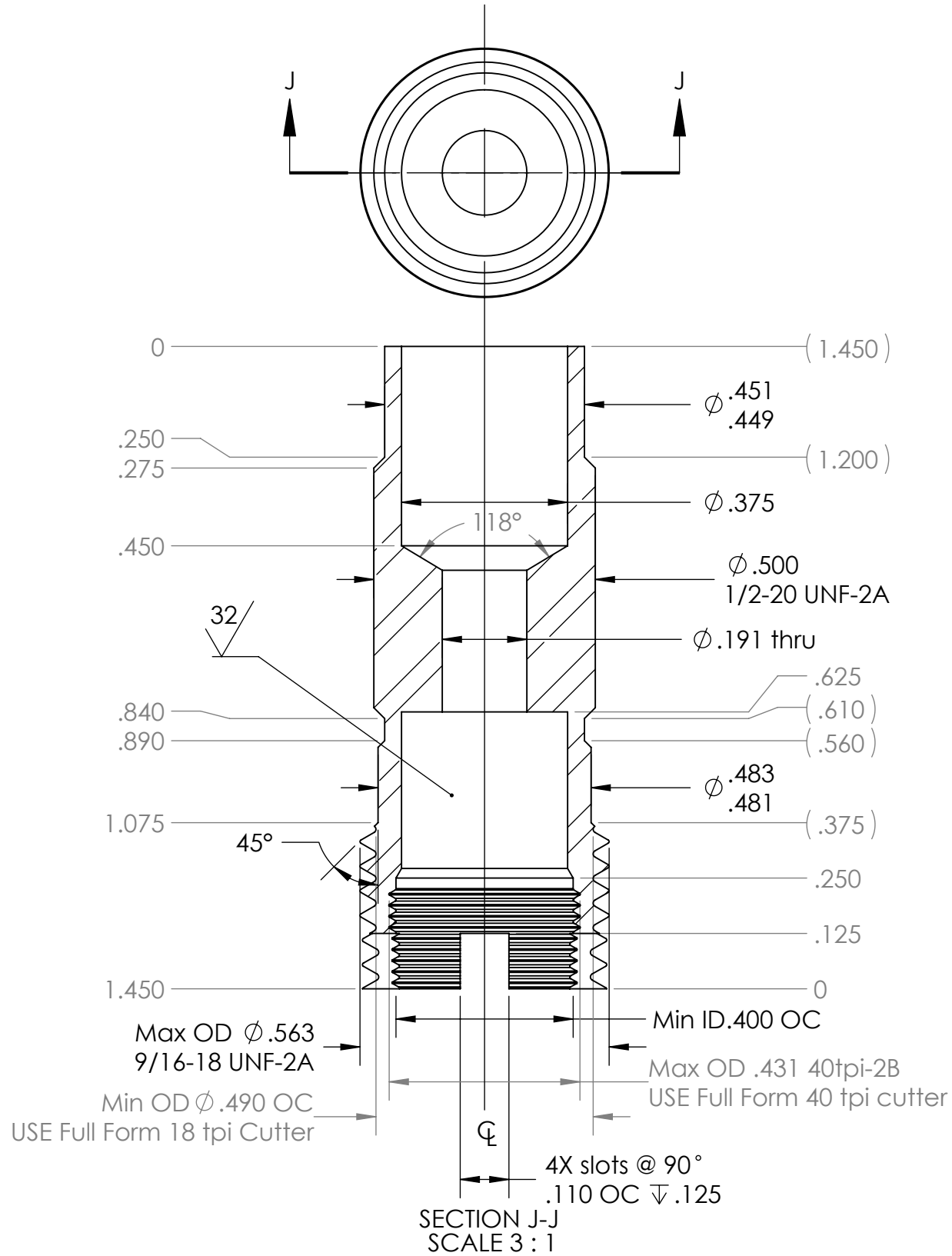


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
INITIAL RELEASE			
A	Added Face Sealed Probe	5/8/13	hwj

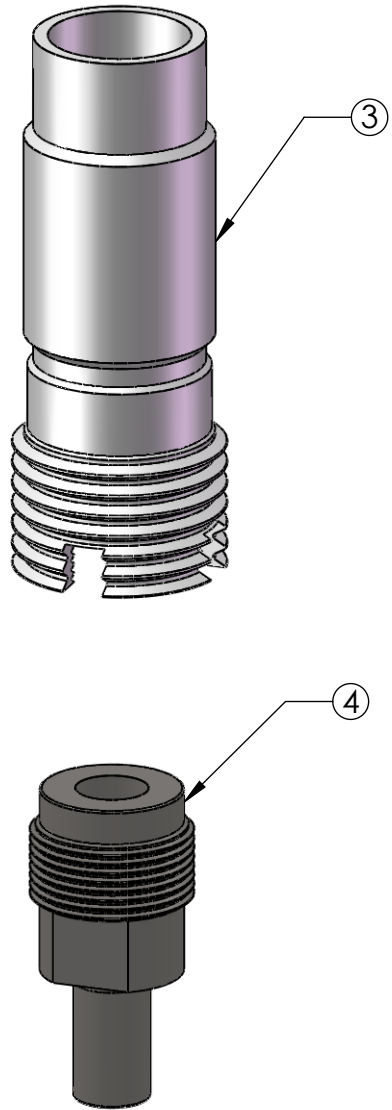
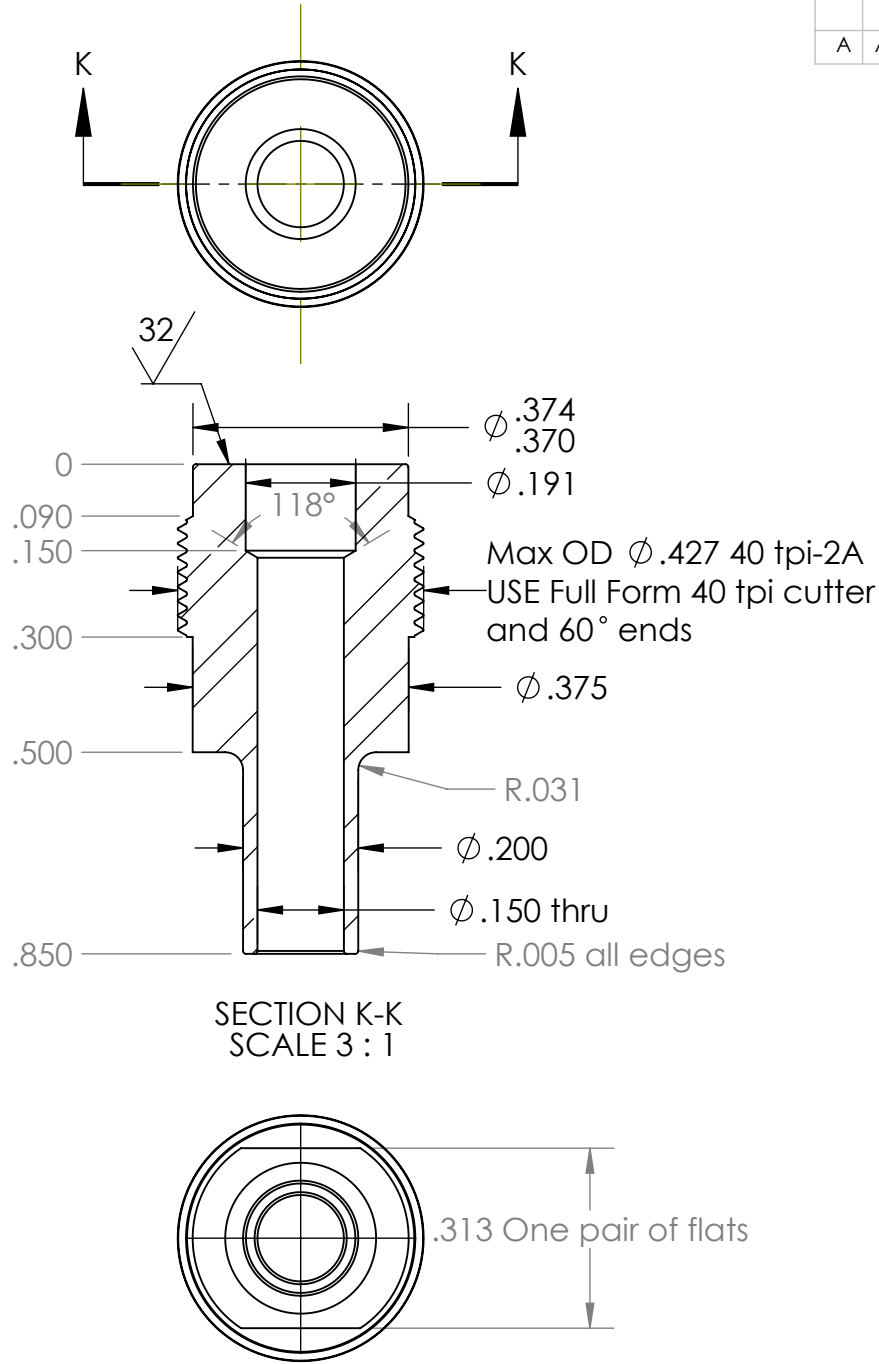
2		1		PNA Stem		PEEK (natural)		
Item No.		Qty	Part No.	Description		Material Specification		
Bill of Materials								
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS		DATE	
Inspector		1 PLACE DIM ±.1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch 7/24/12		
Shop Foreman		1. DIMENSIONS ARE IN INCHES					ENGINEER	
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.					CHECKED	
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
			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			
		3			2			
Monterey Bay Aquarium Research Institute								
MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700								
APEX+ISUS+pH External Parts								
SIZE B	DWG. NO. 252jaha-APEX+ISUS+pHexternals	REV. A						
SCALE 1:3		CAD FILE: Tornado/chem/SWfiles		SHEET 3 OF 4				

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	Added Face Sealed Probe	5/8/13	hwj



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



4	1		pH Stem Retainer	316 Stainless Steel				
3	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				
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	Monterey Bay Aquarium Research Institute 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
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.						PROJECT NO. 901218
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.				PROJECT Chem Sensors	APEX+ISUS+pH External Parts	
		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		SIZE B	DWG. NO. 252jaha-APEX+ISUS+pHexternals	REV. A
						SCALE 1:3	CAD FILE: Tornado/chem/SWfiles	SHEET 4 OF 4

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



APEX+ISUS+pH External Parts

A