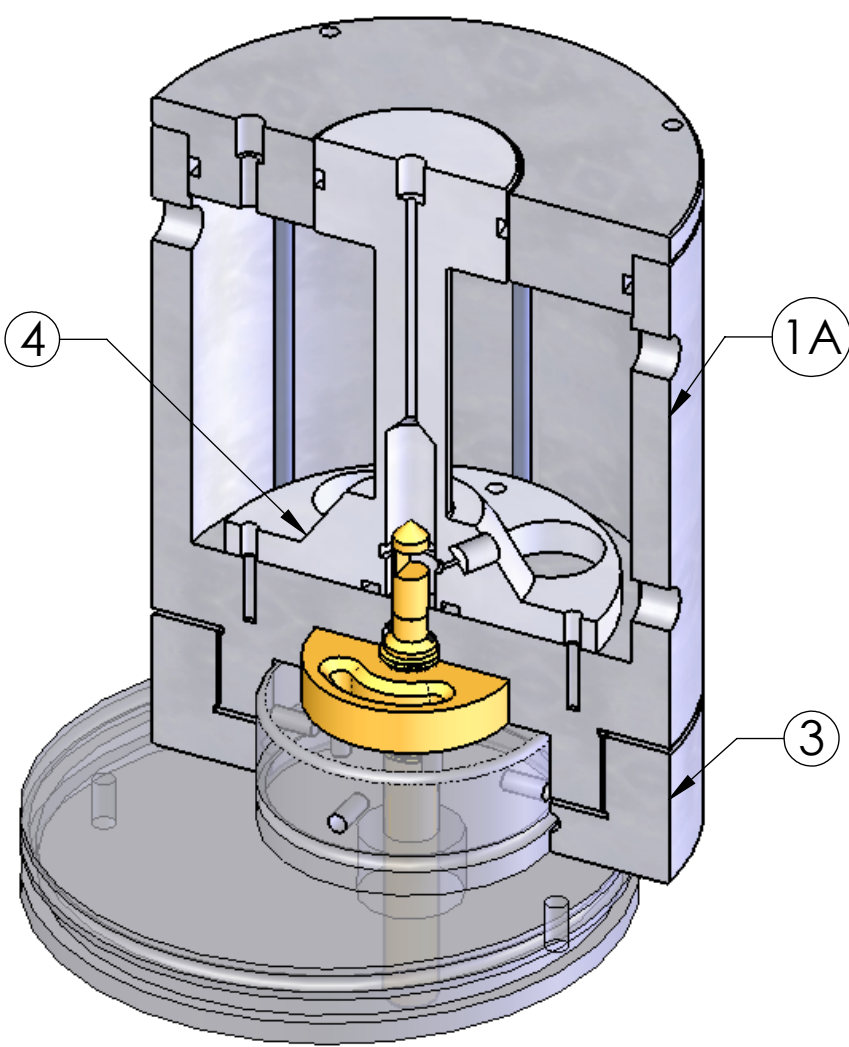
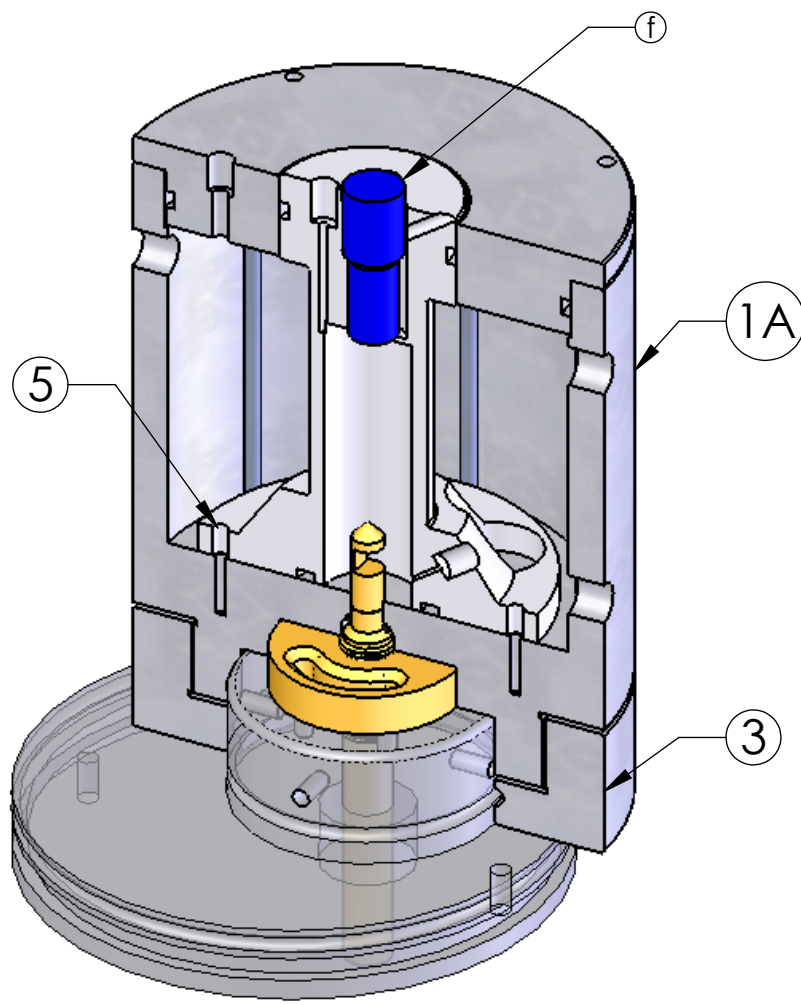
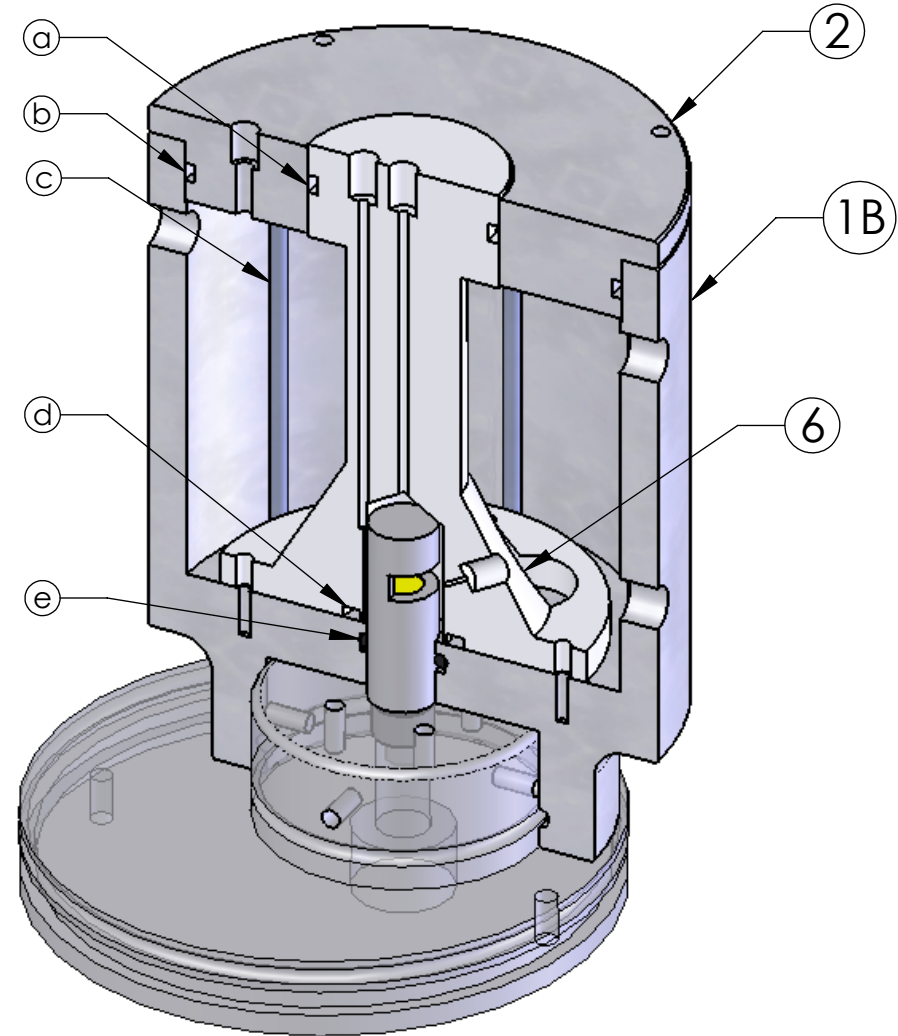




C-Tech Flowcell
(2.4 ml)

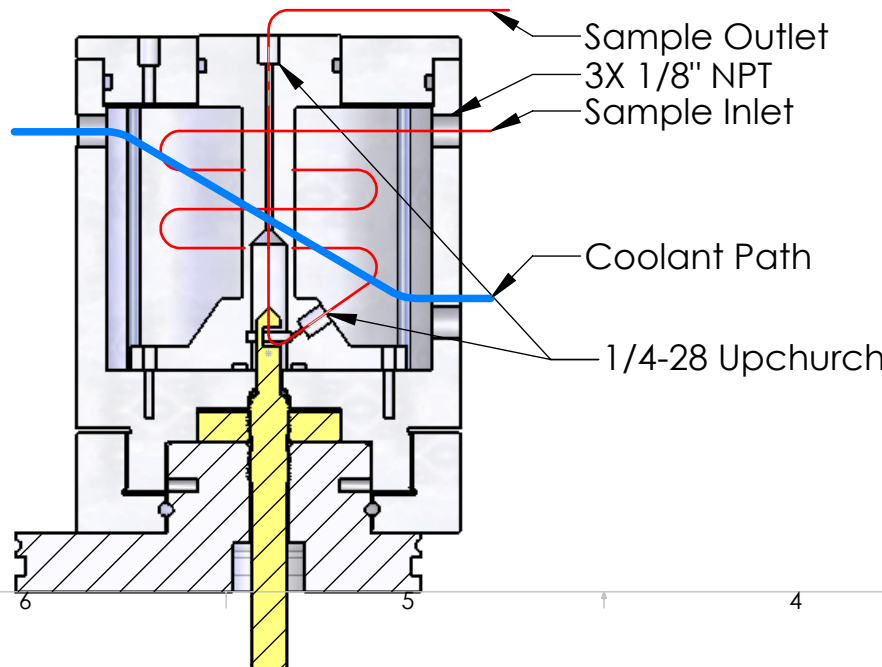


C-Tech Mixing Flowcell
(15 ml)



EquiTech Flowcell
(1.5 ml)

Flow Diagram



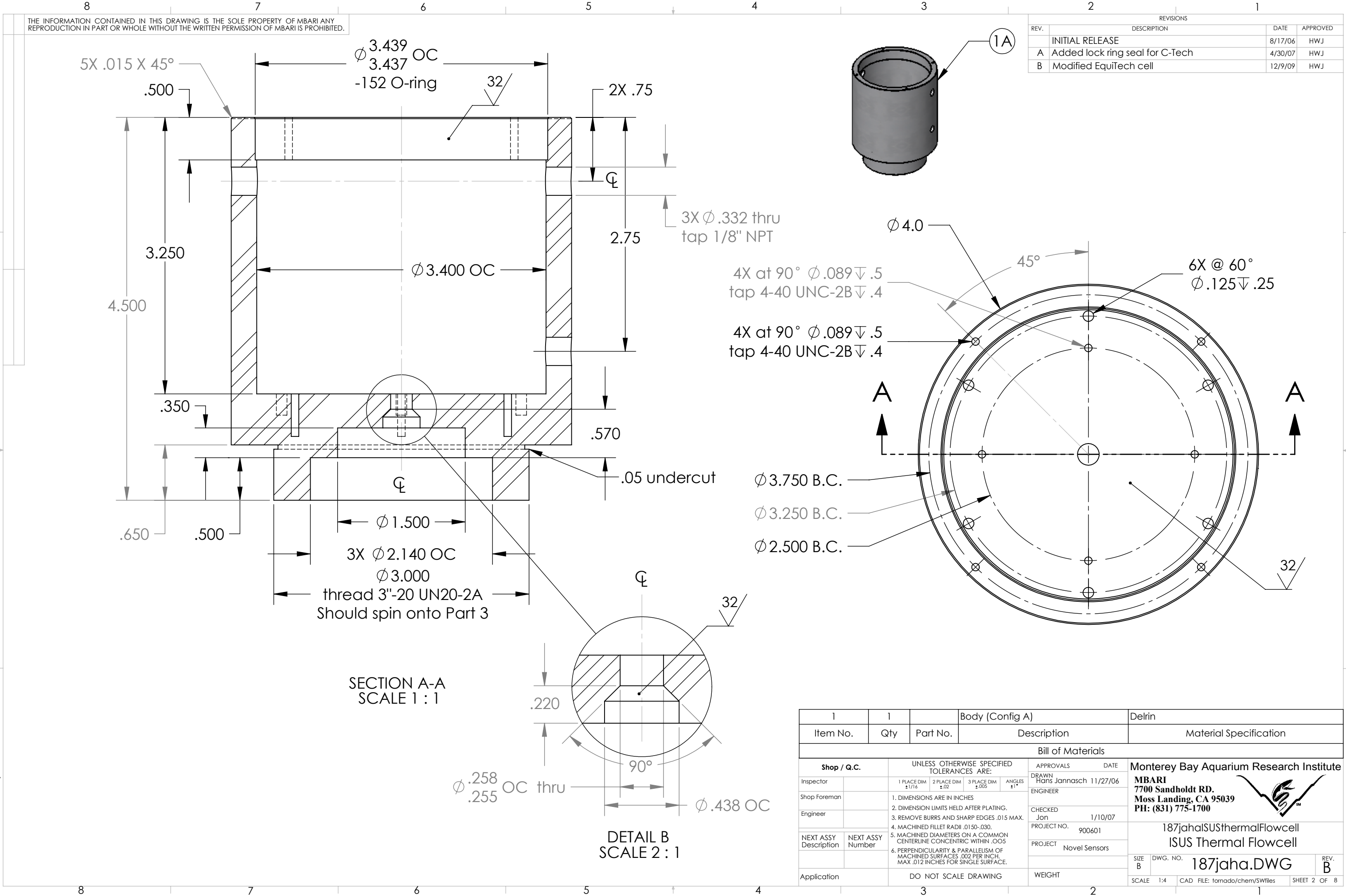
f	1	Stirring Motor	Faulhaber Ministirrer SA 1212N 2.7G 050013 075)
e	1	Probe O-ring	Config 1: -010; 2:-112 (Viton)
d	1	Flowcell O-ring	Flowcell 1: -113; 2: -120; 3: -116 (Viton)
c	6	Tubing spacers	.125 OD 3.25 pin (PVC or SS)
b	1	Outer endcap O-ring	-152 (Buna-N)
a	1	Inner endcap O-ring	-125 (Buna-N)
Item No.	Qty	Part	Description
Non-machined components			

6	1		Flowcell #1 (EquiTech)	PEEK
5	1		Flowcell #2 (C-Tech with mixer)	PEEK
4	1		Flowcell #1 (C-Tech)	PEEK
3	1		Lock Ring	Delrin
2	2		Cap	Delrin
1	2		Body (Config A and B)	Delrin
Item No.	Qty	Part No.	Description	Material Specification

Shop / Q.C. UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:
1 PLACE DIM ±1/16 2 PLACE DIM ±.02 3 PLACE DIM ±.005 ANGLES ±1°
Inspector Shop Foreman Engineer
NEXT ASSY Description NEXT ASSY Number
Application DO NOT SCALE DRAWING WEIGHT

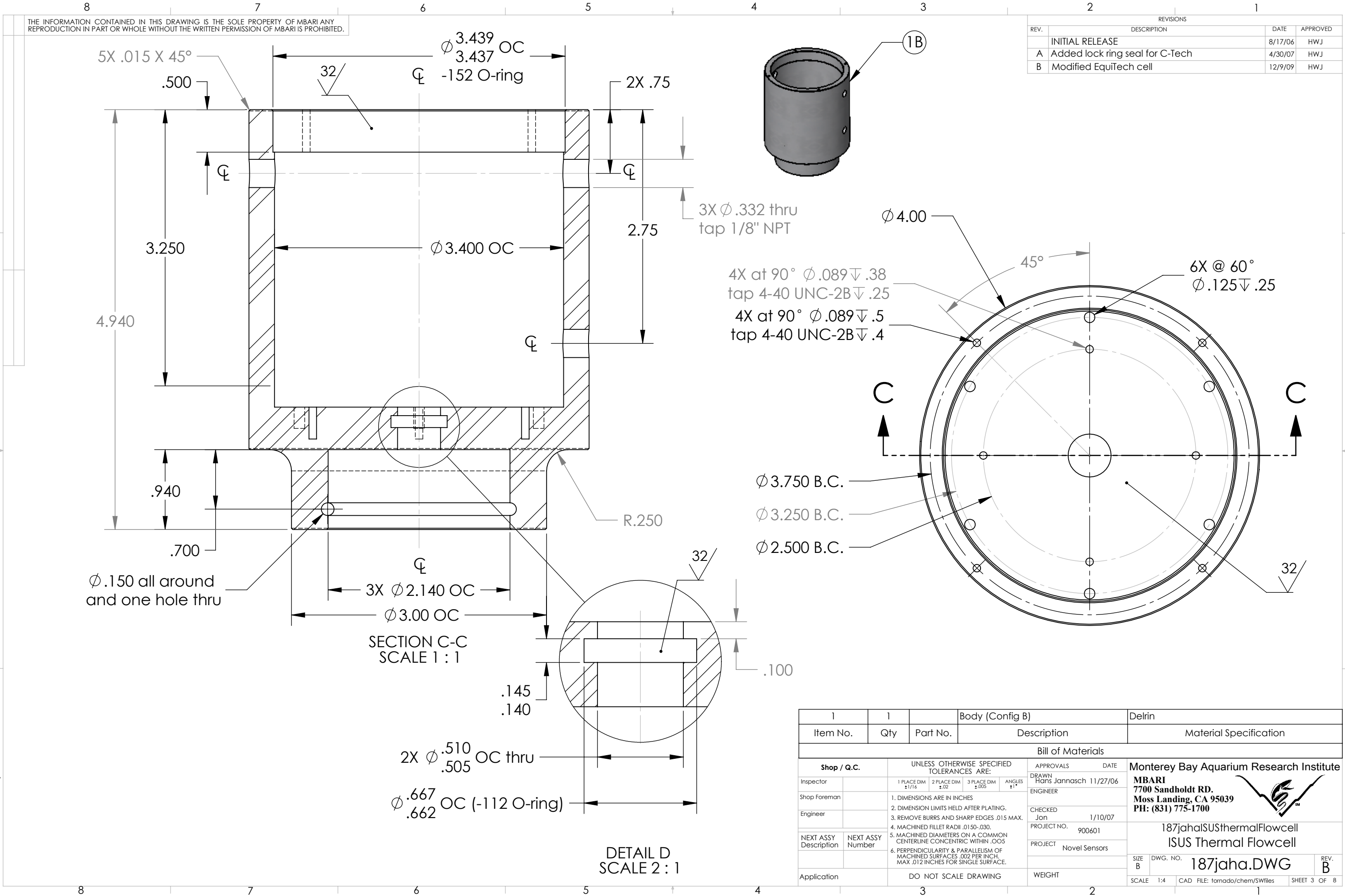
APPROVALS DATE
DRAWN Hans Jannasch 11/27/06
ENGINEER
CHECKED Jon 1/10/07
PROJECT NO. 900601
PROJECT Novel Sensors
WEIGHT

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MBARI
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Moss Landing, CA 95039
PH: (831) 775-1700
187jahaISUSthermalFlowcell
ISUS Thermal Flowcell
SIZE B DWG. NO. 187jaha.DWG REV. B
SCALE 1:4 CAD FILE: tornado/chem/SWfiles SHEET 1 OF 8



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	8/17/06	HWJ
A	Added lock ring seal for C-Tech	4/30/07	HWJ
B	Modified EquiTech cell	12/9/09	HWJ

1	1		Body (Config A)	Delrin		
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 11/27/06
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	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 
Engineer					CHECKED Jon 1/10/07	
NEXT ASSY Description	NEXT ASSY Number	PROJECT Novel Sensors		187jahaISUSthermalFlowcell	ISUS Thermal Flowcell	
Application		DO NOT SCALE DRAWING		WEIGHT	SIZE B DWG. NO. 187jaha.DWG REV. B	
				SCALE 1:4	CAD FILE: tornado/chem/SWfiles	SHEET 2 OF 8

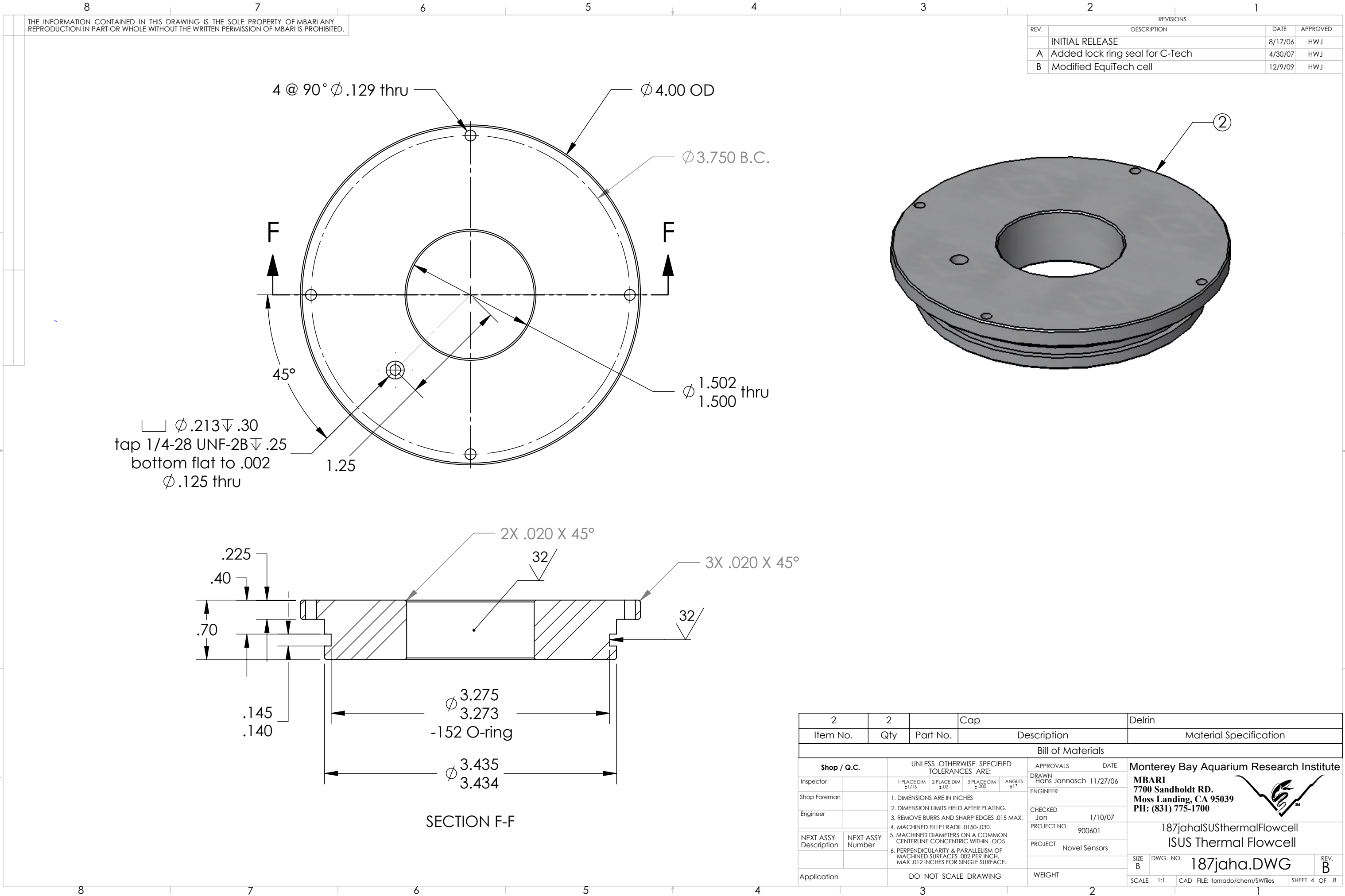


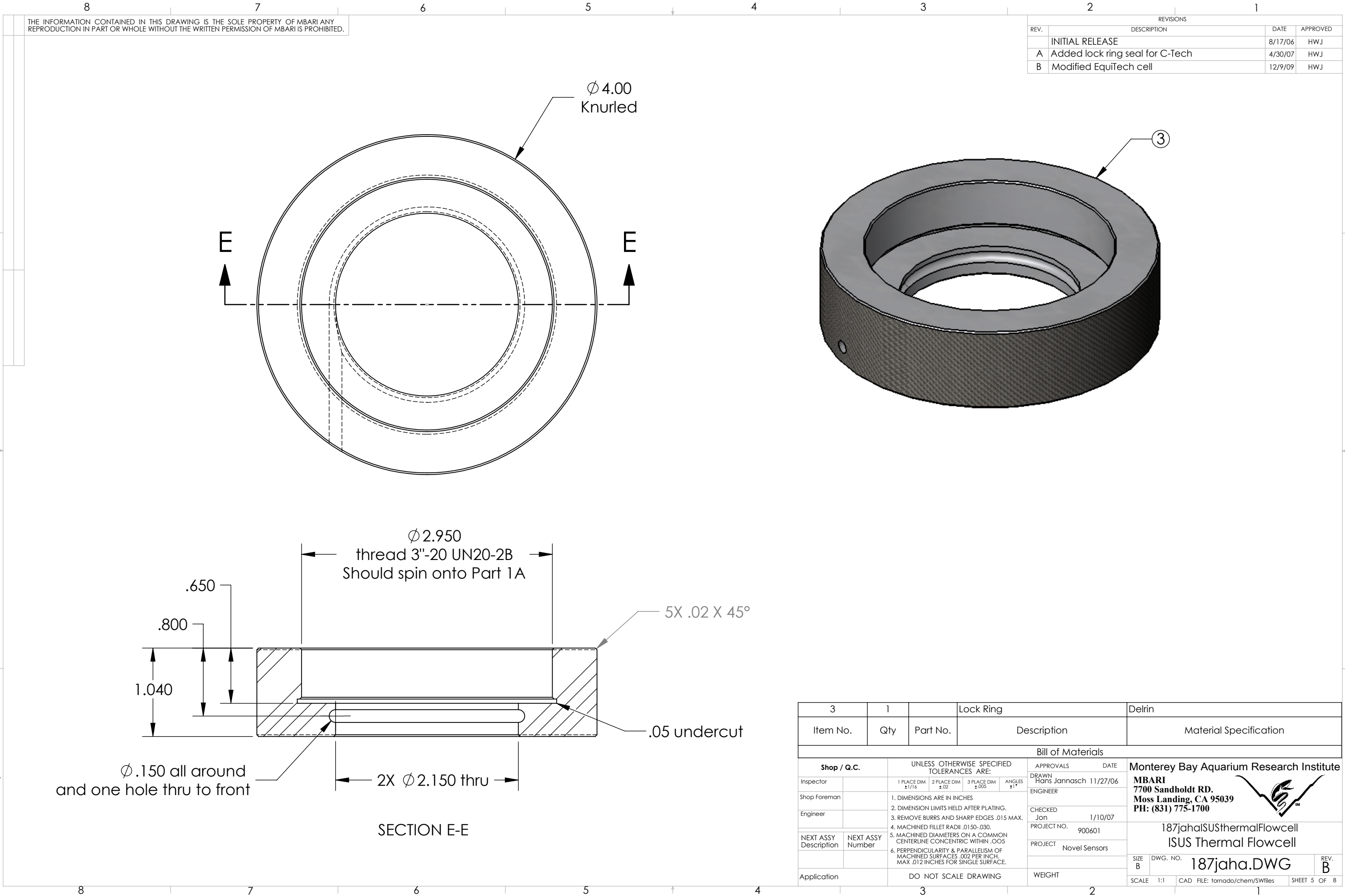
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	8/17/06	HWJ
A	Added lock ring seal for C-Tech	4/30/07	HWJ
B	Modified EquiTech cell	12/9/09	HWJ

1	1		Body (Config B)	Delrin		
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 11/27/06
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				CHECKED Jon 1/10/07
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.				PROJECT NO. 900601
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.				PROJECT Novel 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	1	

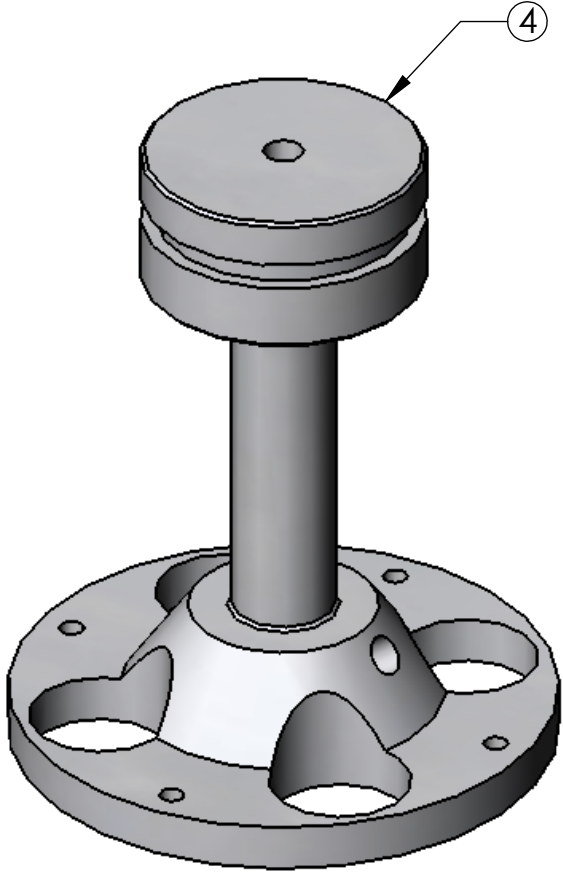
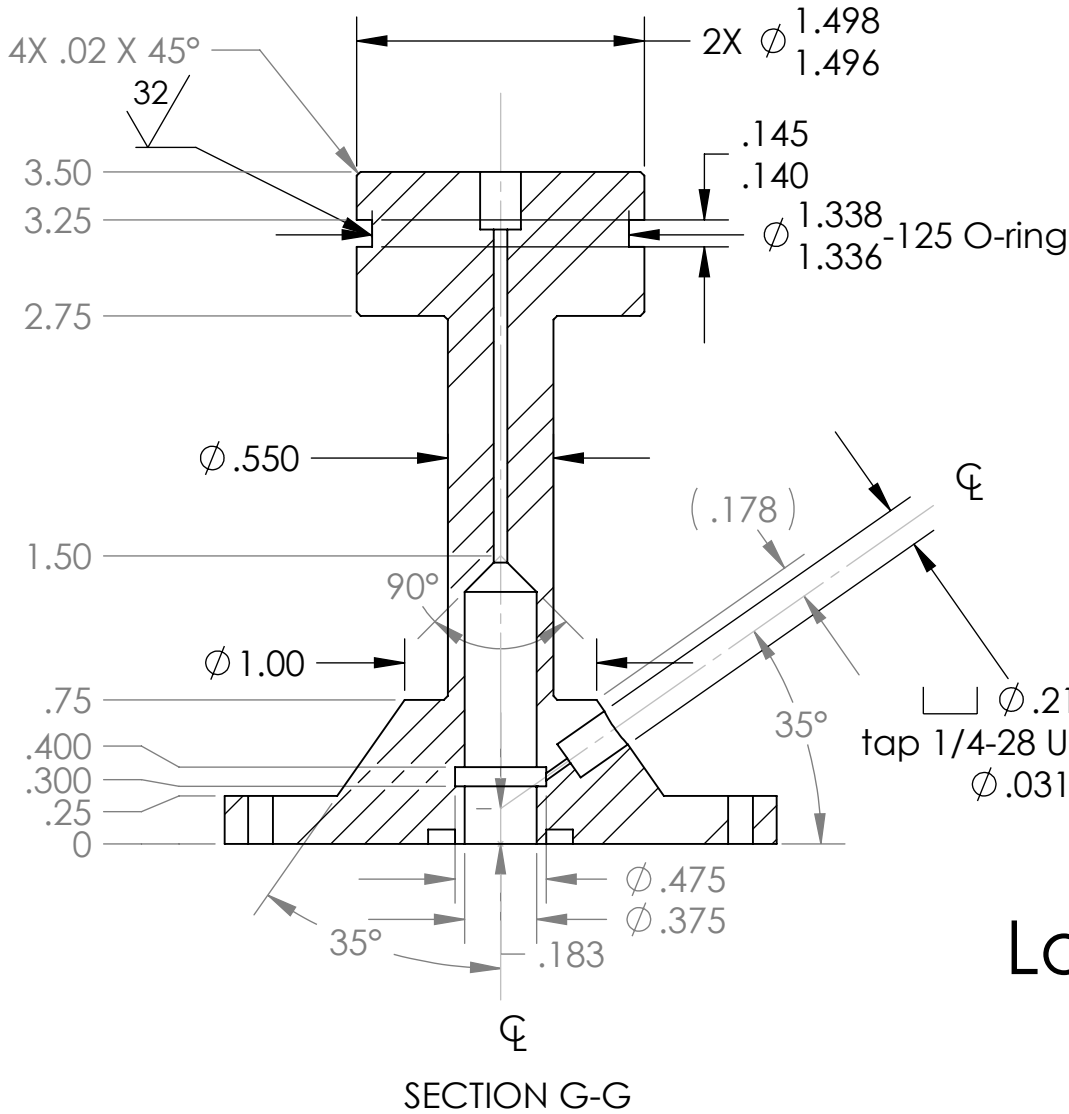
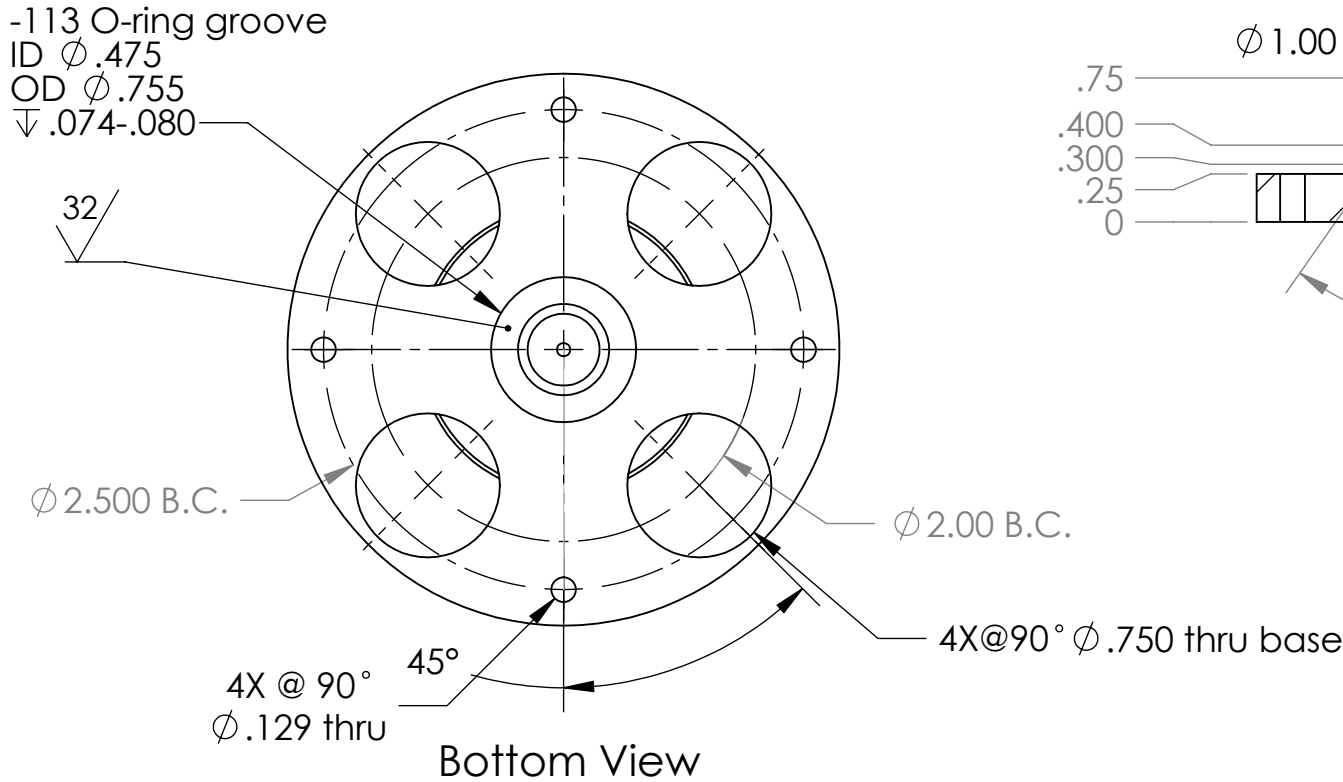
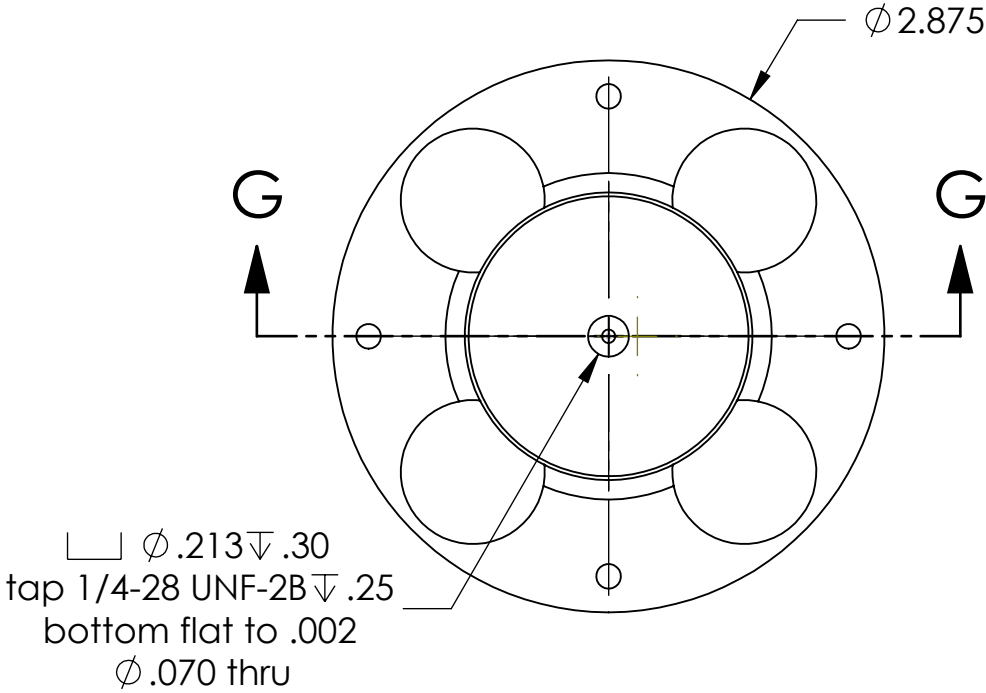
Monterey Bay Aquarium Research Institute			
MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700			
187jahaISUSthermalFlowcell ISUS Thermal Flowcell			
SIZE B	DWG. NO. 187jaha.DWG	REV. B	
SCALE 1:4	CAD FILE: tornado/chem/SWfiles	SHEET 3 OF 8	





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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	8/17/06	HWJ
A	Added lock ring seal for C-Tech	4/30/07	HWJ
B	Modified EquiTech cell	12/9/09	HWJ

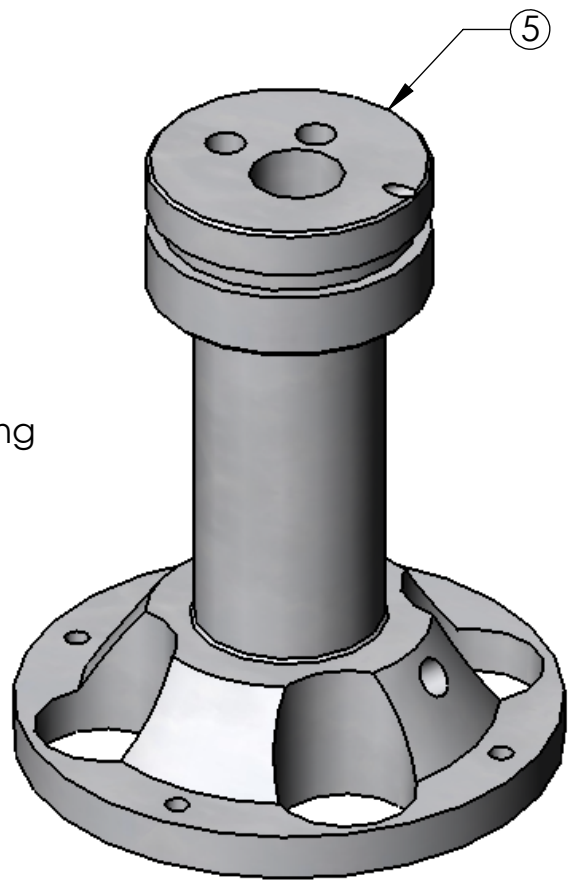
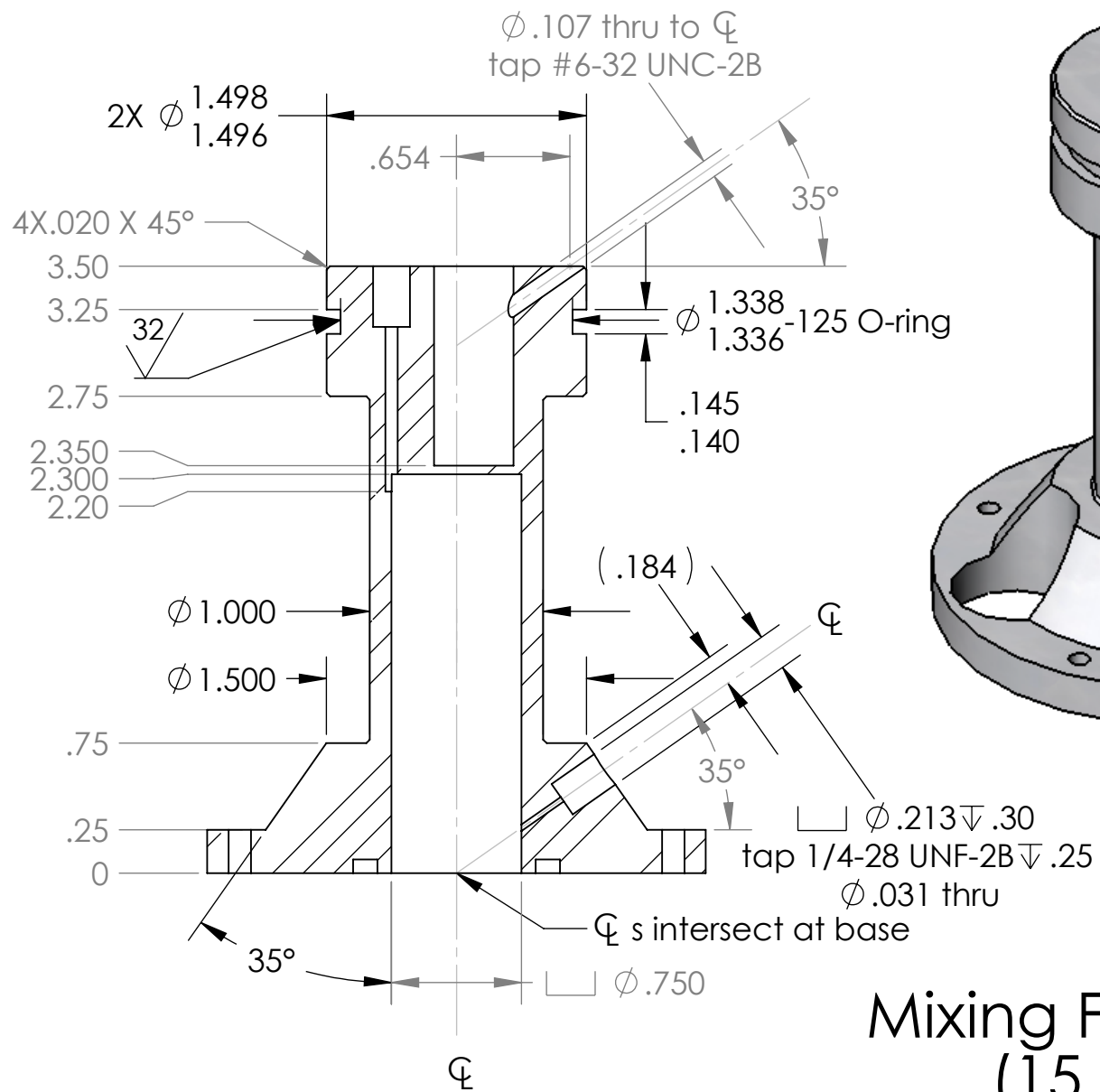
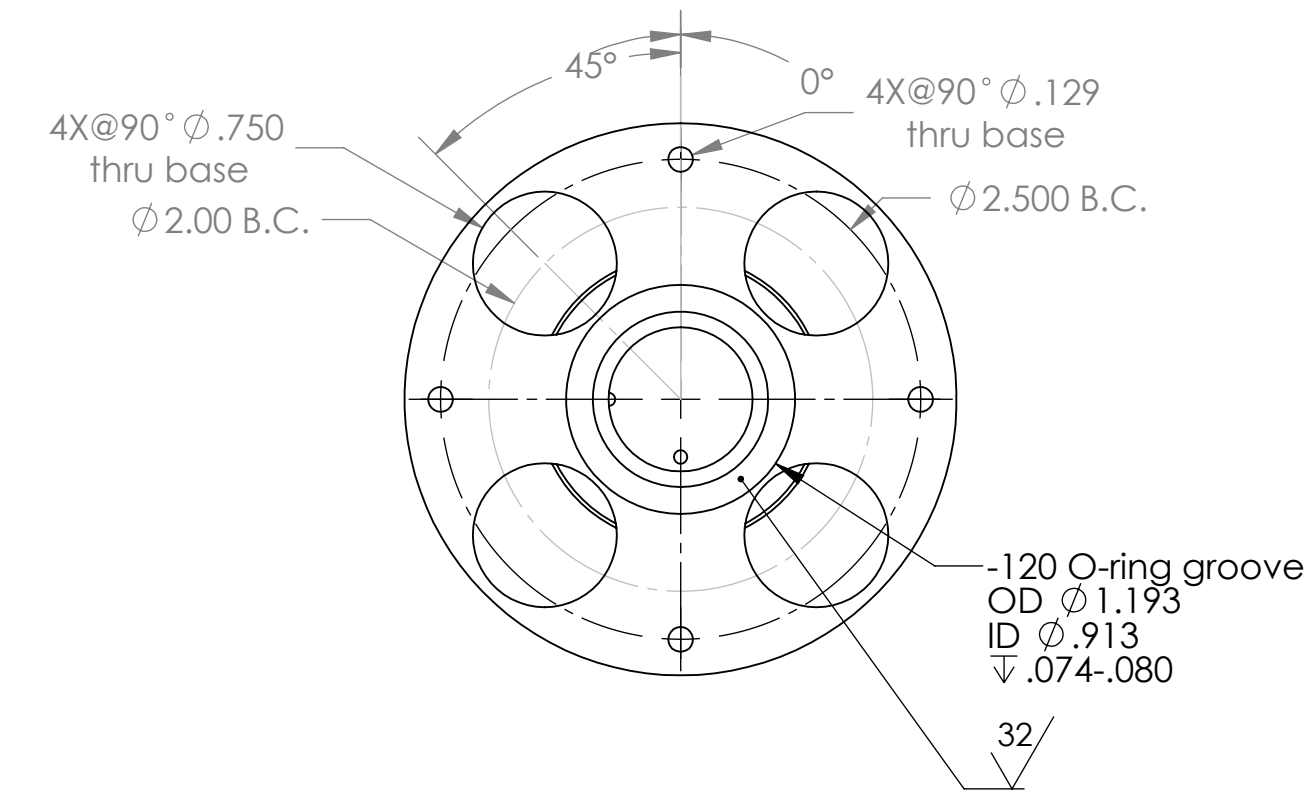
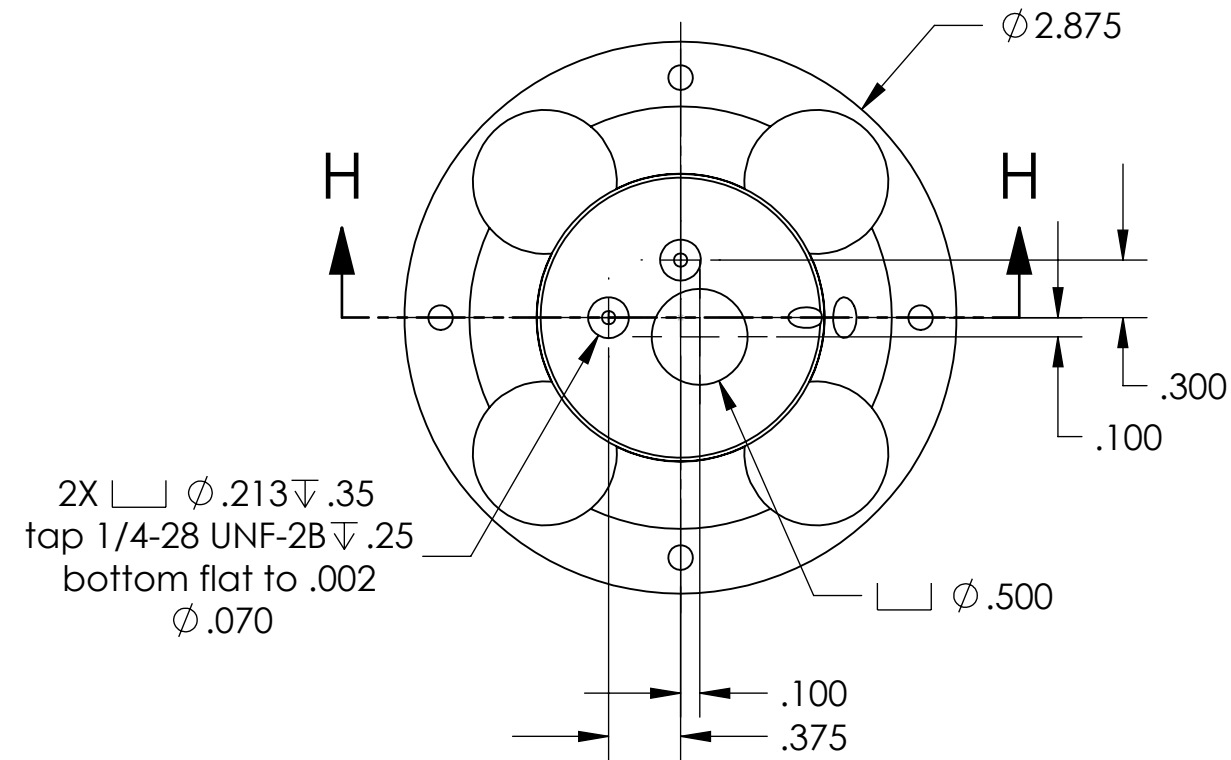


Low Volume Flowcell (2.4 ml)

4		1		Flowcell #1 (C-Tech)		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°			
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.				DRAWN Hans Jannasch 11/27/06		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700			
Engineer						ENGINEER					
NEXT ASSY Description		NEXT ASSY Number		CHECKED Jon 1/10/07				PROJECT NO. 900601		187jahaISUSthermalFlowcell ISUS Thermal Flowcell	
Application		DO NOT SCALE DRAWING				PROJECT Novel Sensors		SIZE B			
						WEIGHT		DWG. NO. 187jaha.DWG		REV. B	
								SCALE 1:1		CAD FILE: tornado/chem/SWfiles	
										SHEET 6 OF 8	

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	8/17/06	HWJ
A	Added lock ring seal for C-Tech	4/30/07	HWJ
B	Modified EquiTech cell	12/9/09	HWJ



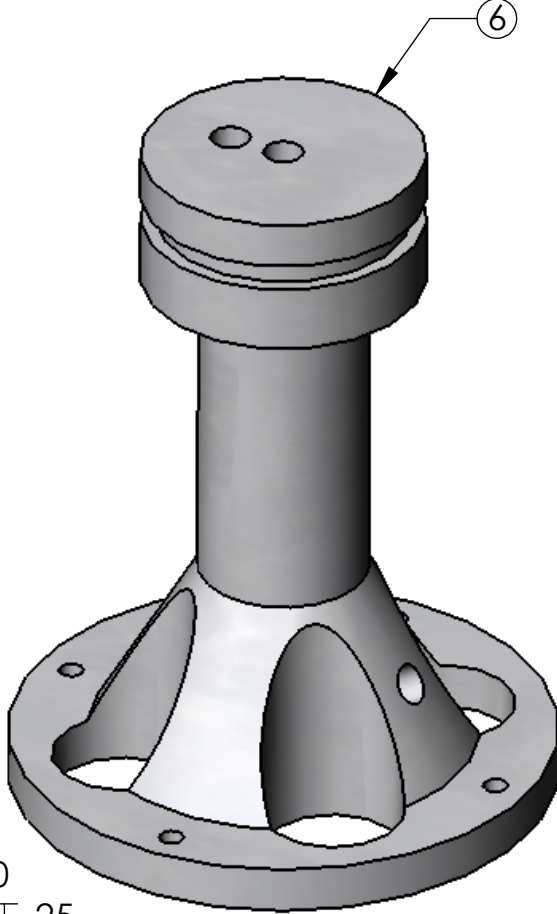
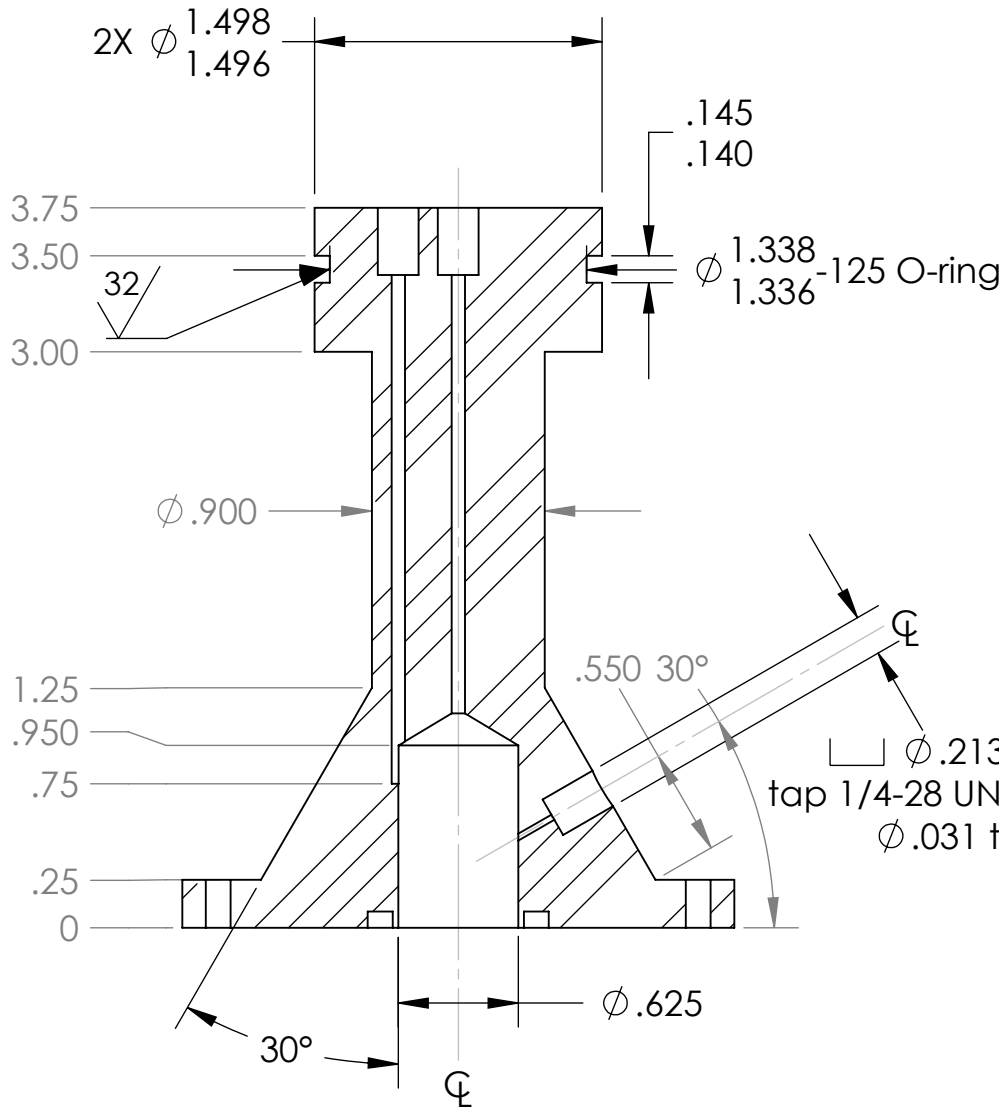
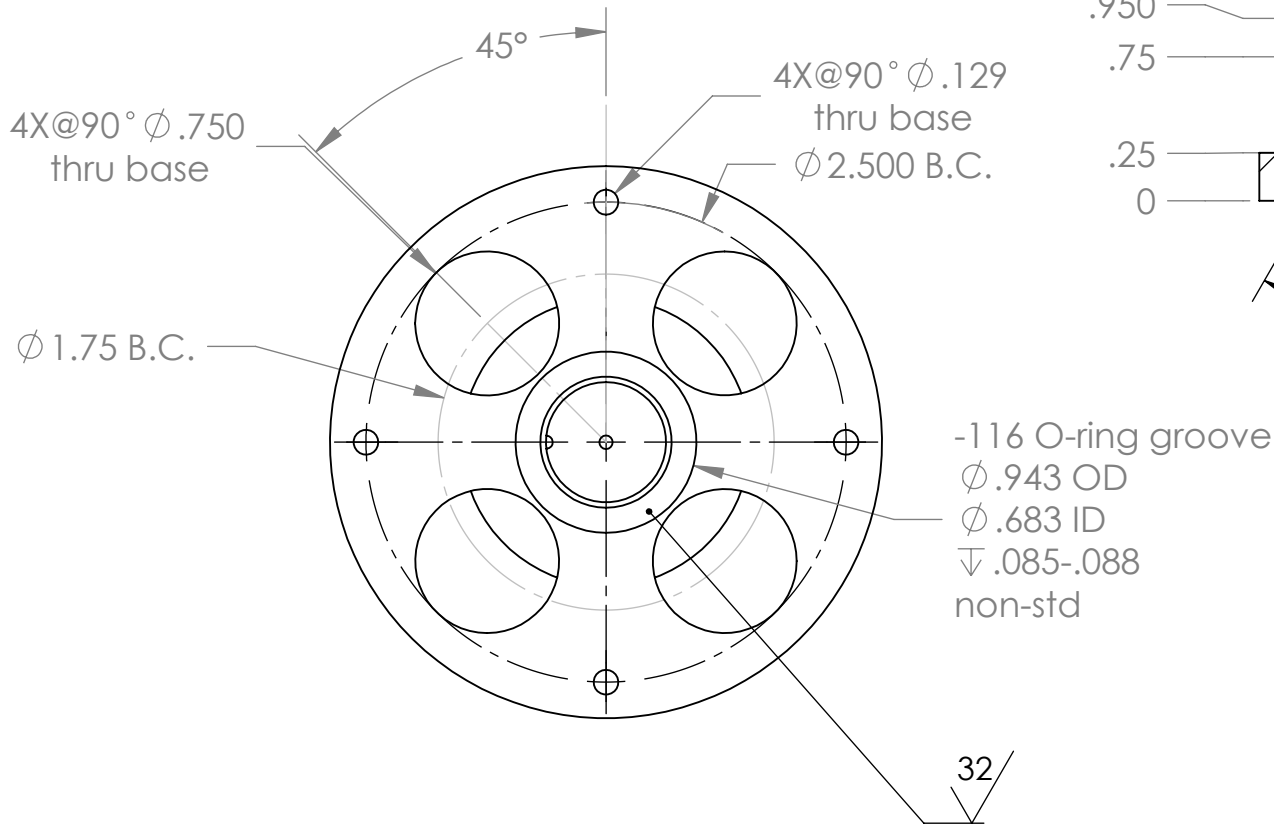
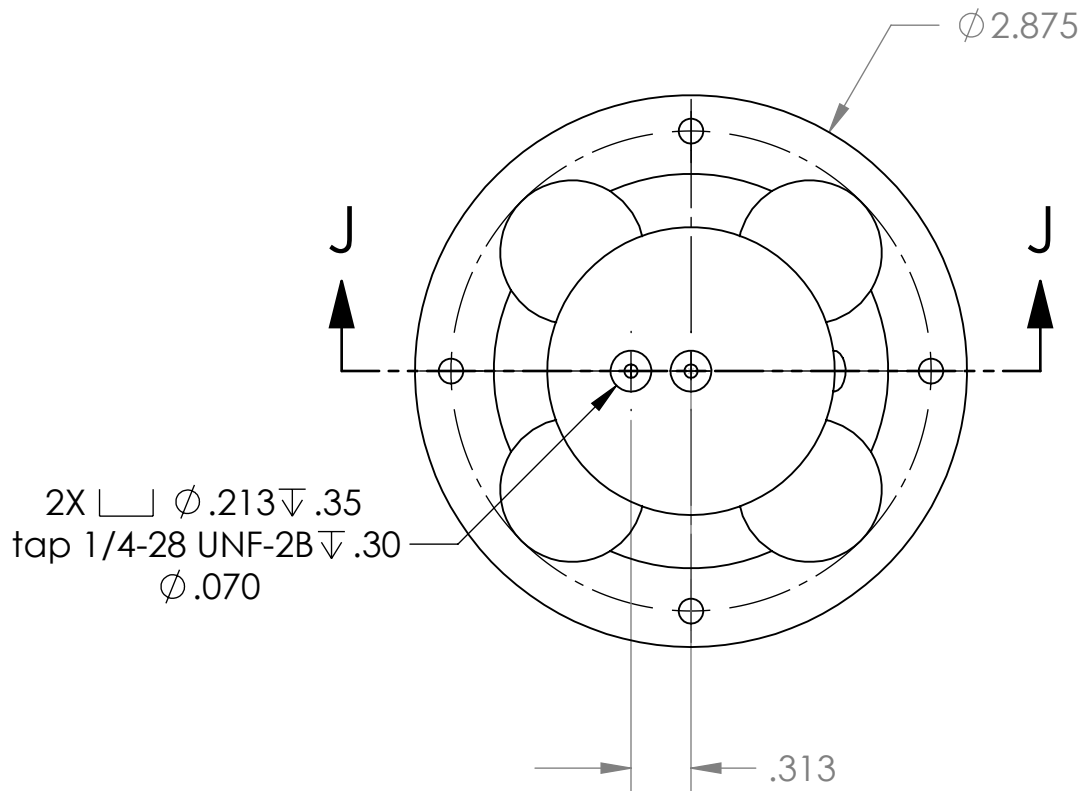
Mixing Flowcell (15 ml)

SECTION H-H

5	1		Flowcell #2 (C-Tech with mixer)	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	4 ANGLES ±1°	DRAWN Hans Jannasch 11/27/06
Shop Foreman		1. DIMENSIONS ARE IN INCHES				ENGINEER
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				CHECKED Jon 1/10/07
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.				PROJECT NO. 900601
		4. MACHINED FILLET RADII .0150-.030.				PROJECT Novel Sensors
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.				
Application		DO NOT SCALE DRAWING		WEIGHT		
						SIZE B
						DWG. NO. 187jaha.DWG
						SCALE 1:1
						CAD FILE: tornado/chem/SWfiles
						SHEET 7 OF 8
						REV. B
						Monterey Bay Aquarium Research Institute
						MBARI
						7700 Sandholdt RD.
						Moss Landing, CA 95039
						PH: (831) 775-1700
						
						187jahaISUSthermalFlowcell
						ISUS Thermal Flowcell

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	8/17/06	HWJ
A	Added lock ring seal for C-Tech	4/30/07	HWJ
B	Modified EquiTech cell	12/9/09	HWJ



EquiTech Flowcell (1.5 ml)

SECTION J-J

6		1				Flowcell #1 (EquiTech)		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°	
Shop Foreman				1. DIMENSIONS ARE IN INCHES				DRAWN Hans Jannasch 11/27/06	
				2. DIMENSION LIMITS HELD AFTER PLATING.				ENGINEER	
Engineer				3. REMOVE BURRS AND SHARP EDGES .015 MAX.				CHECKED Jon 1/10/07	
				4. MACHINED FILLET RADII .0150-.030.				PROJECT NO. 900601	
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	

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187jahaISUthermalFlowcell				
ISUS Thermal Flowcell				
SIZE B		DWG. NO.		
		187jaha.DWG		
REV. B				
SCALE 1:1		CAD FILE: tornado/chem/SWfiles		SHEET 8 OF 8

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