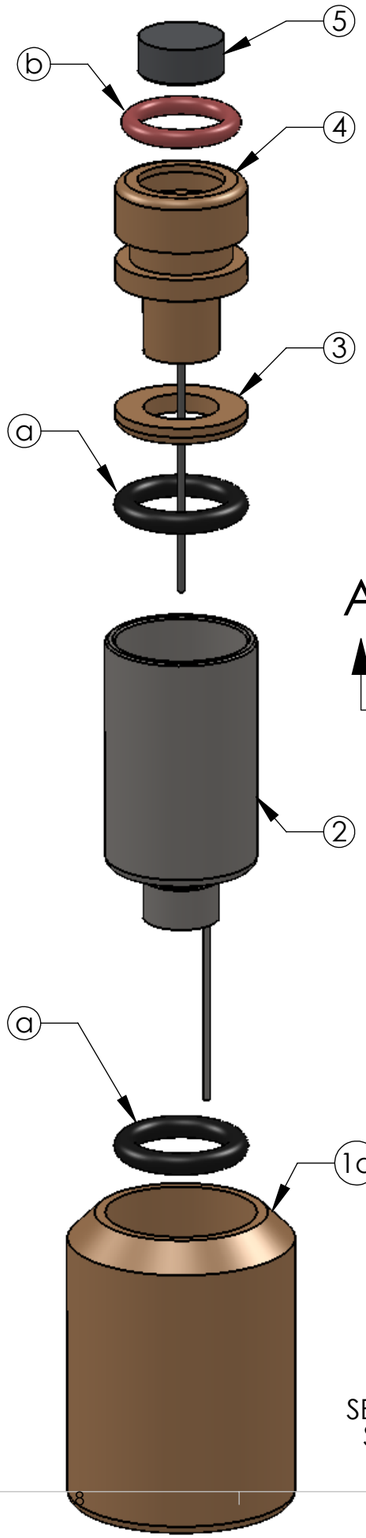
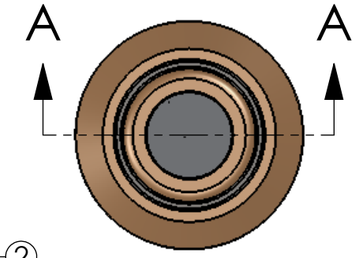
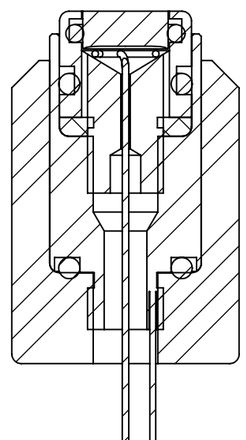
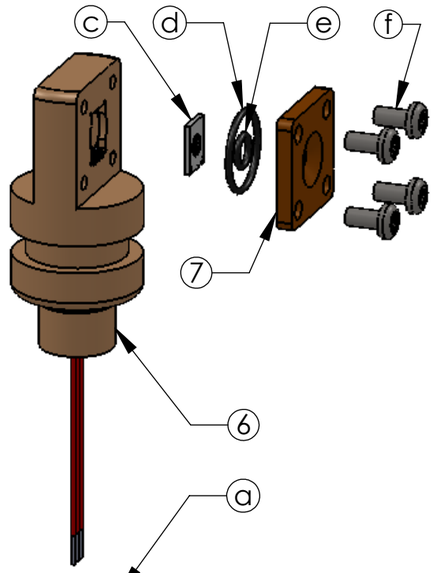
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj

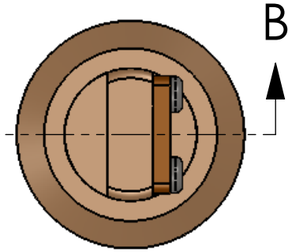


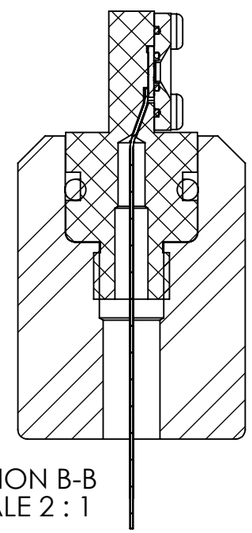




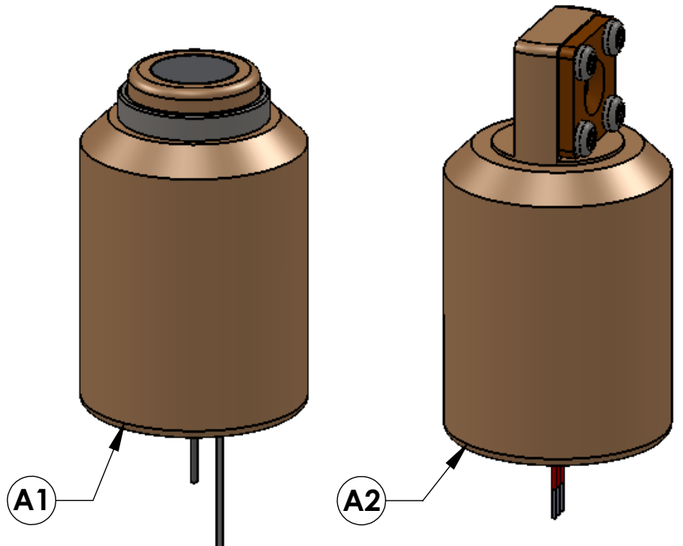
SECTION A-A
SCALE 2 : 1







SECTION B-B
SCALE 2 : 1



High-pressure Reference (A1) and DuraFET (A2) PTChamber ASSEMBLIES

Item No.	Qty	Part No.	Description	Material Specification
f	4		#0-80 x 3/16" panhead screws	Type 316 Stainless Steel
e	1		.087 x .020 O-ring	Viton, D75 (Apple Rubber)
d	1		.248 x .020 O-ring	Viton, D75 (Apple Rubber)
c	1		DuraFET Chip	Honeywell
b	1		7 X 1.5 mm O-ring	Silicone, D50
a	2		-011 O-ring	Viton, D75
7	1		DuraFET Cover	PEEK (natural)
6	1		DuraFET Mount	PEEK Rod (natural)
5	1		Silver Chloride Pellet	vanLondon 7.2 x 3.6 mm silver chlodide
4	1		Ref Pellet Housing	PEEK Rod (natural)
3	1		Isolation Washer	PEEK Rod (natural)
2	1		Counter Electrode	Type 316 Stainless Steel Rod
1b	1		Common Support (Config b)	PEEK Rod (natural)
1a	1		Common Support (Config a)	PEEK Rod (natural)
A2	1		DuraFET for PTChamber	
A1	1		Ref Cell for PTChamber	

Bill of Materials

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

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 .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN Hans Jannasch	5/30/11
ENGINEER	
CHECKED	
PROJECT NO. 900918	
PROJECT Novel Sensors	
WEIGHT	

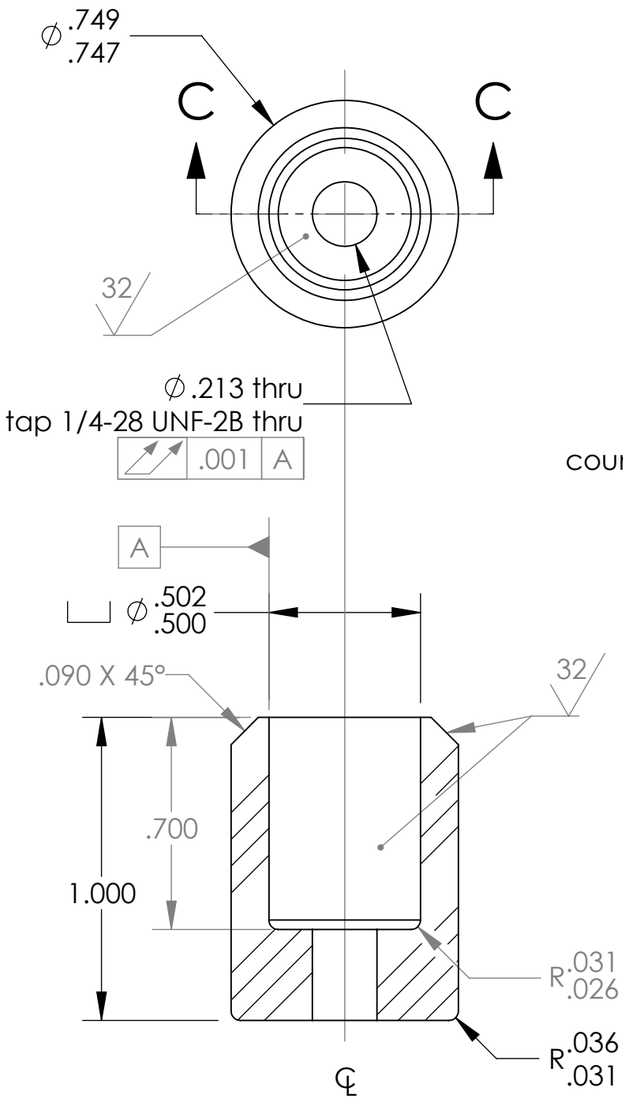
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

Common DuraFET & Reference

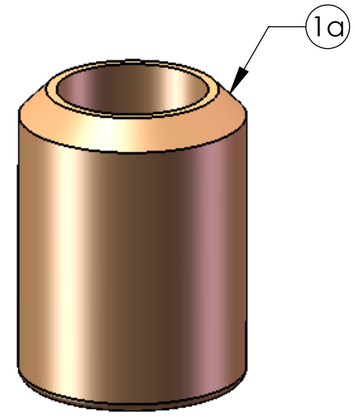
SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

SCALE 1:3	CAD FILE: Tornado/chem/SWfiles	SHEET 1 OF 6

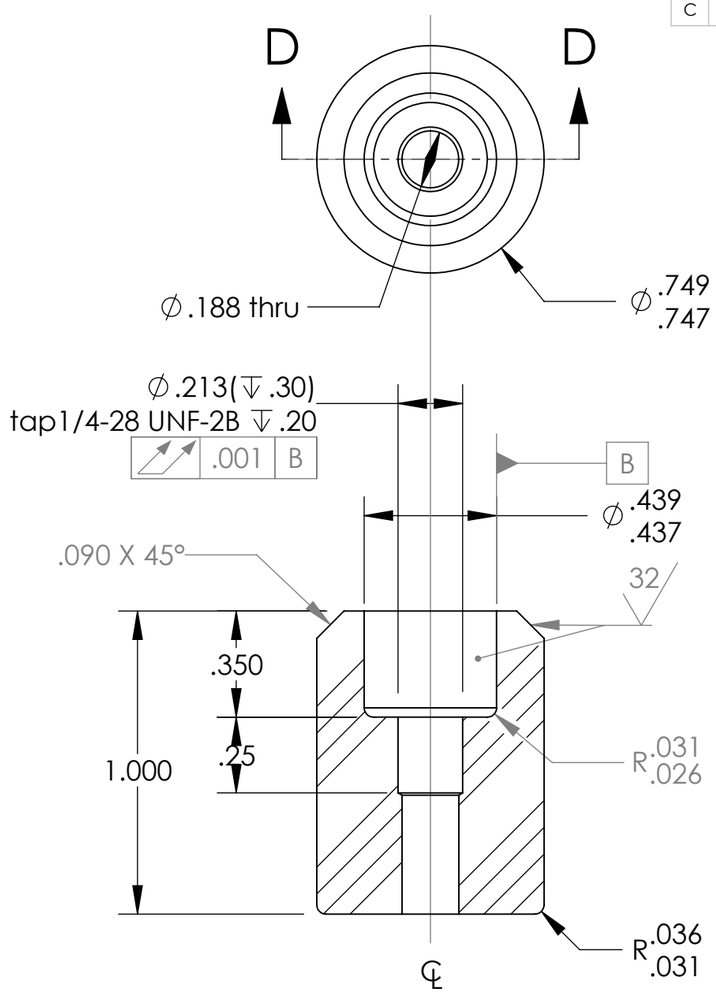
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj



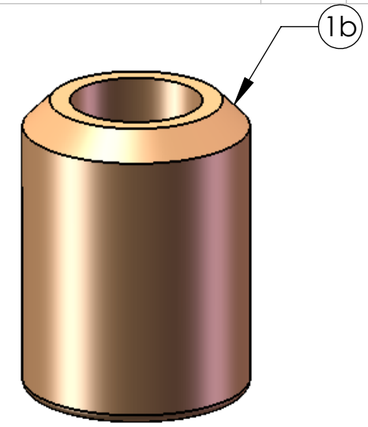
SECTION C-C



For use **with** counter electrode (Part 2)



SECTION D-D



For use **without** counter electrode (Part 2)

Item No.	Qty	Part No.	Description	Material Specification
1b	1		Common Support (Config b)	PEEK Rod (natural)
1a	1		Common Support (Config a)	PEEK Rod (natural)

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 5/30/11
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. 900918
		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

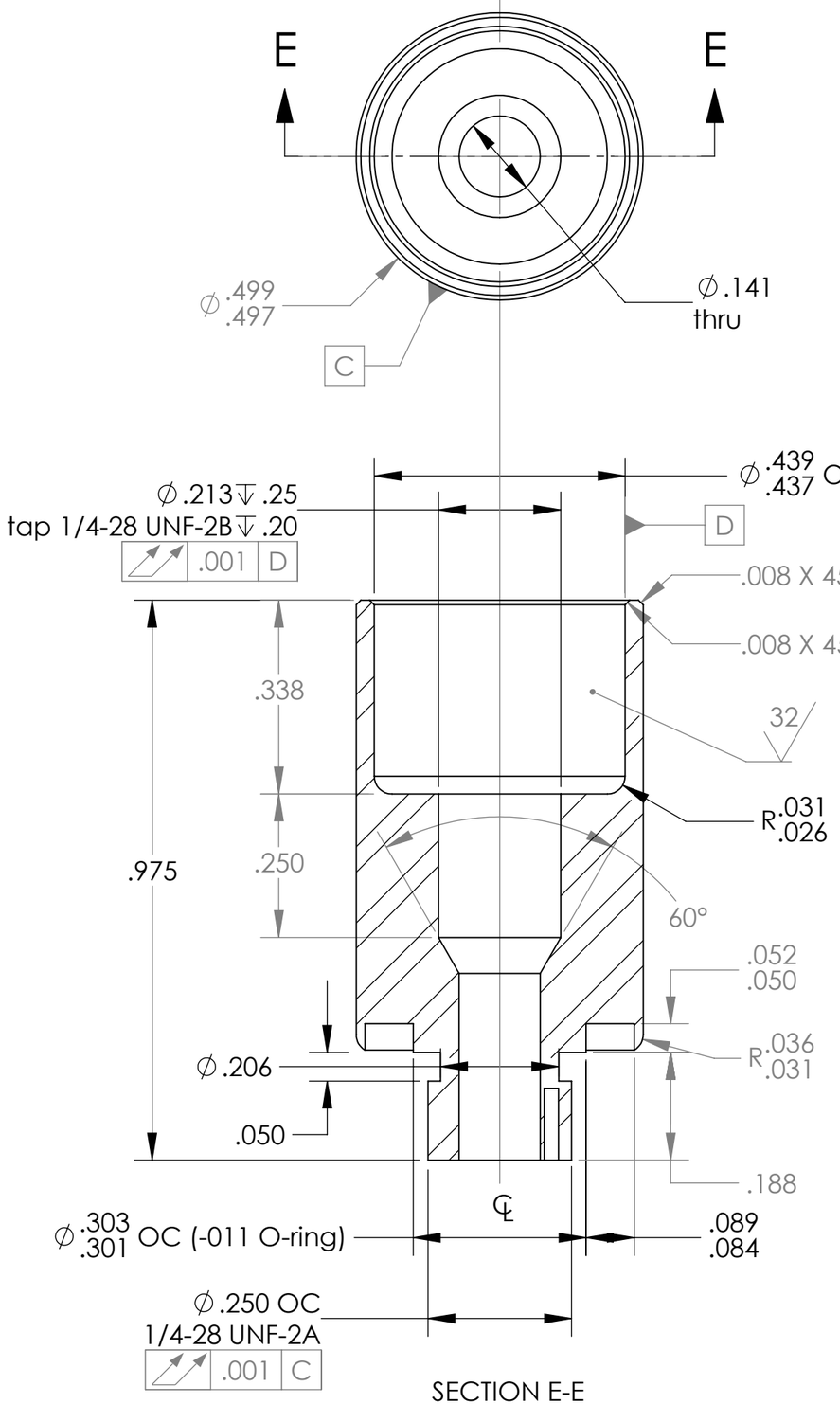
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

Common DuraFET & Reference

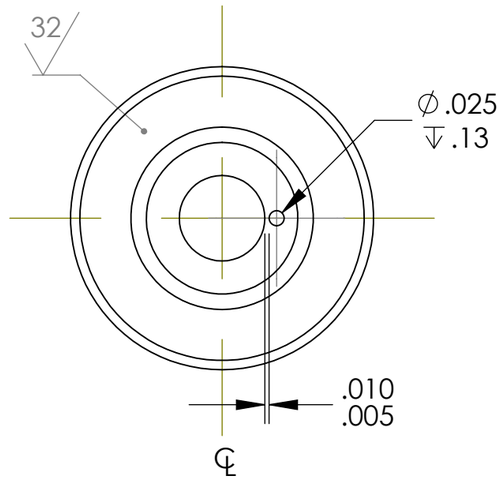
SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

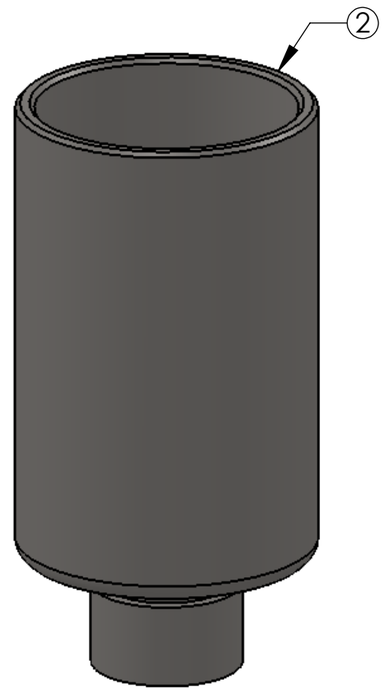
SCALE 1:3 · CAD FILE: Tornado/chem/SWfiles · SHEET 2 OF 6

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj



SECTION E-E





2	1		Counter Electrode	Type 316 Stainless Steel Rod
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	
Inspector		1 PLACE DIM ±1/16 | 2 PLACE DIM ±.02 | 3 PLACE DIM ±.005 | ANGLES ±1°	
Shop Foreman		1. DIMENSIONS ARE IN INCHES	
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.	
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.	
		4. MACHINED FILLET RADII .0150-.030.	
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	

APPROVALS	DATE
DRAWN Hans Jannasch	5/30/11
ENGINEER	
CHECKED	
PROJECT NO.	900918
PROJECT	Novel Sensors
WEIGHT	

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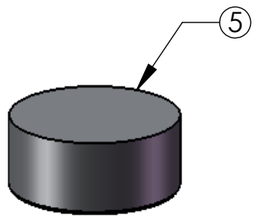
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

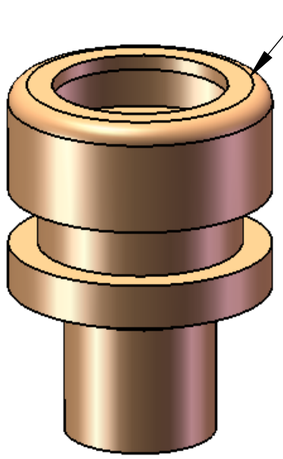
Common DuraFET & Reference

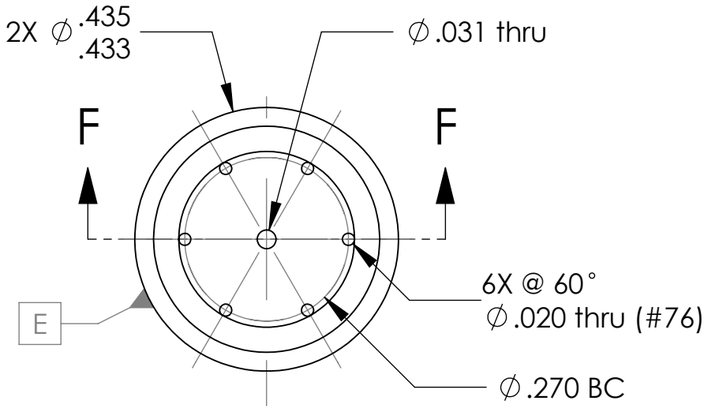
SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

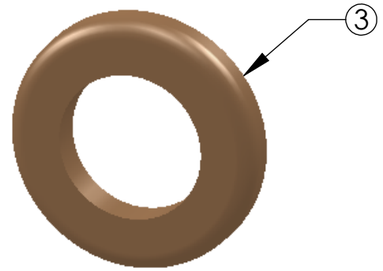
SCALE 1:3 | CAD FILE: Tornado/chem/SWfiles | SHEET 3 OF 6

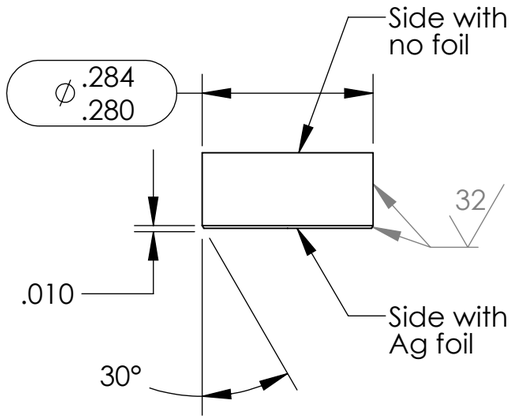
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj

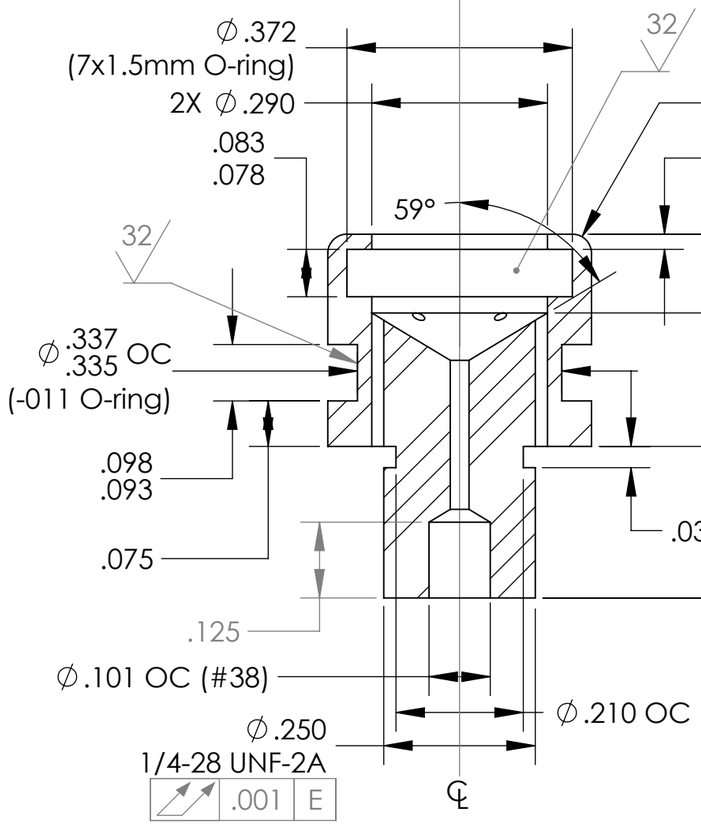


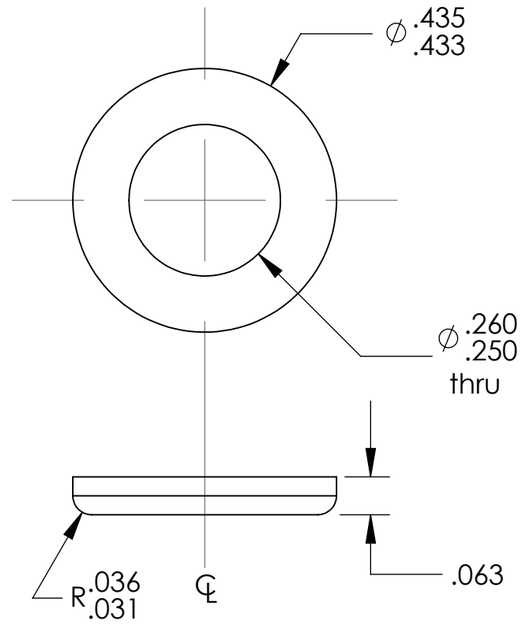












Note: Machine chamfer while turning pellet in clean soft collet with clean sharp tool. Use NO oil or other fluids. Handle pellet with clean latex gloves.

Note: Side with no foil is not machined (machined flat after epoxying into part #4)

SECTION F-F
SCALE 4 : 1

Item No.	Qty	Part No.	Description	Material Specification
5	1		Silver Chloride Pellet	vanLondon 7.2 x 3.6 mm silver chlodide
4	1		Ref Pellet Housing	PEEK Rod (natural)
3	1		Isolation Washer	PEEK Rod (natural)

Bill of Materials

Shop / Q.C.	
Inspector	
Shop Foreman	
Engineer	
NEXT ASSY Description	NEXT ASSY Number
Application	

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°

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 .OO5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN Hans Jannasch	5/30/11
ENGINEER	
CHECKED	
PROJECT NO.	900918
PROJECT	Novel Sensors
WEIGHT	

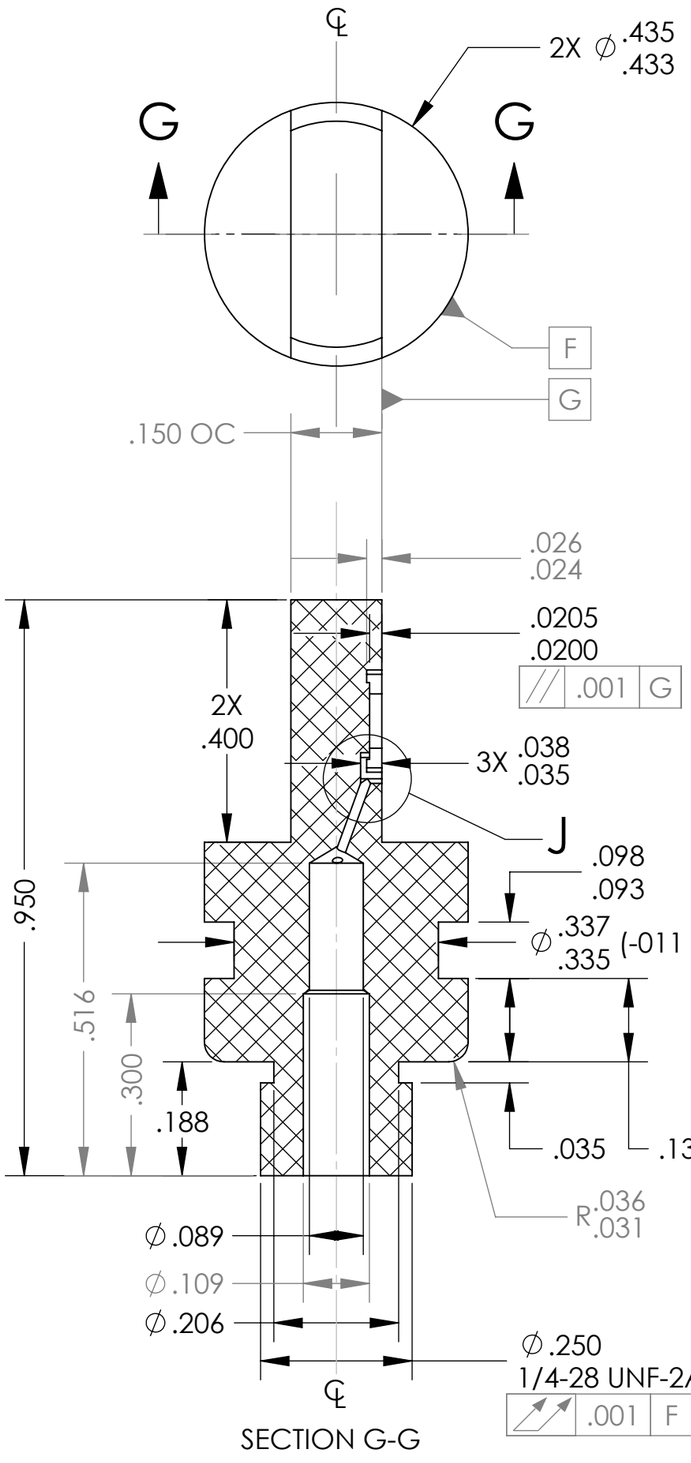
Monterey Bay Aquarium Research Institute
MBARI
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

Common DuraFET & Reference

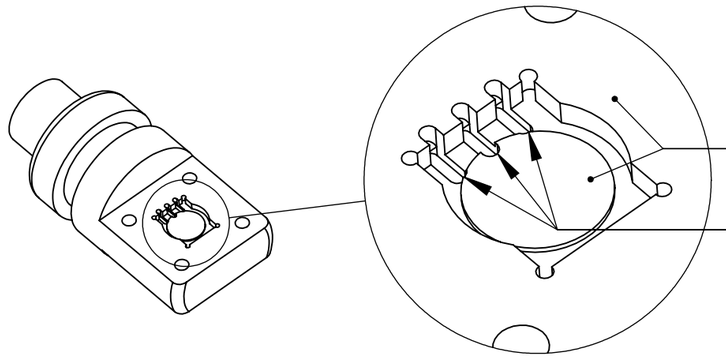
SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

SCALE	CAD FILE:	SHEET
1:3	Tornado/chem/SWfiles	4 OF 6

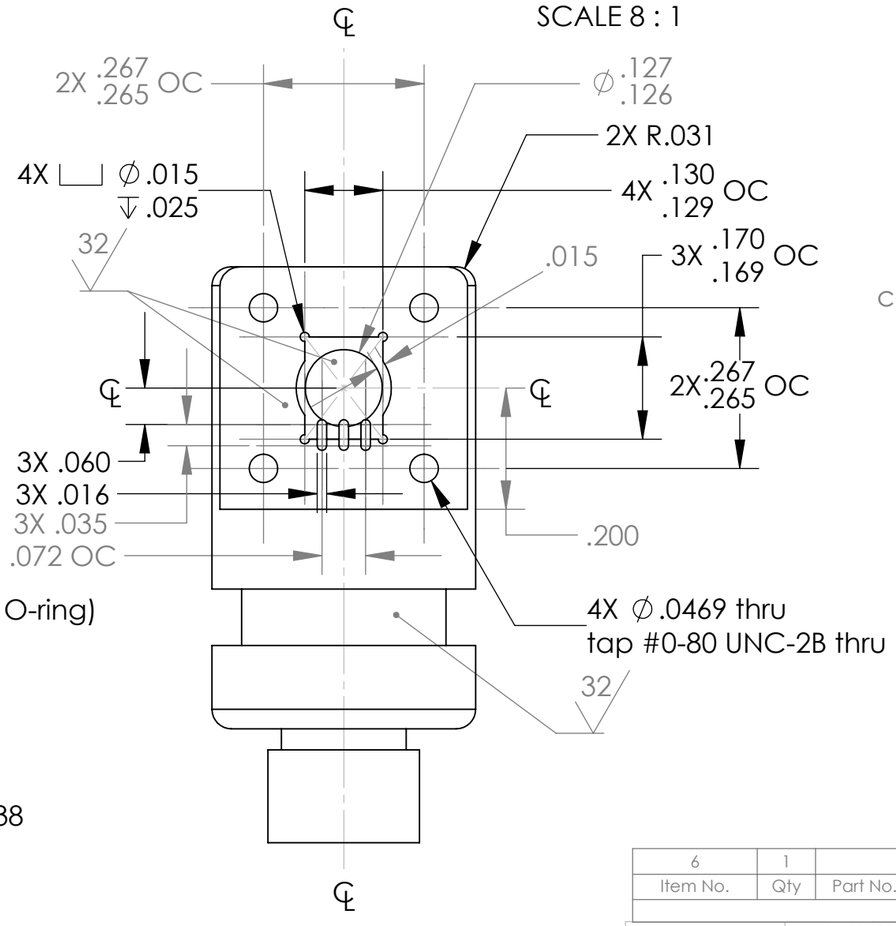
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj

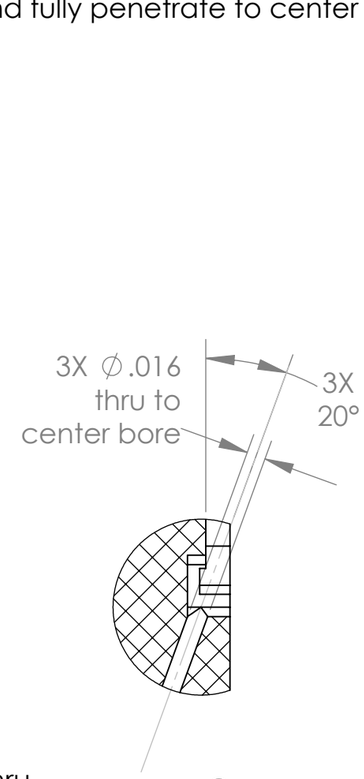


SECTION G-G

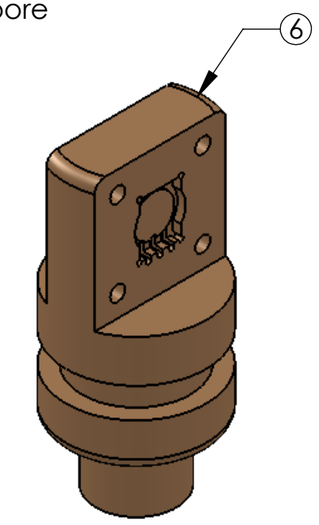


DETAIL H
SCALE 8 : 1





DETAIL J
SCALE 8 : 1



Item No.	Qty	Part No.	Description	Material Specification
6	1		DuraFET Mount	PEEK Rod (natural)

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 5/30/11
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.			ENGINEER
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.			CHECKED
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.			PROJECT NO. 900918
		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

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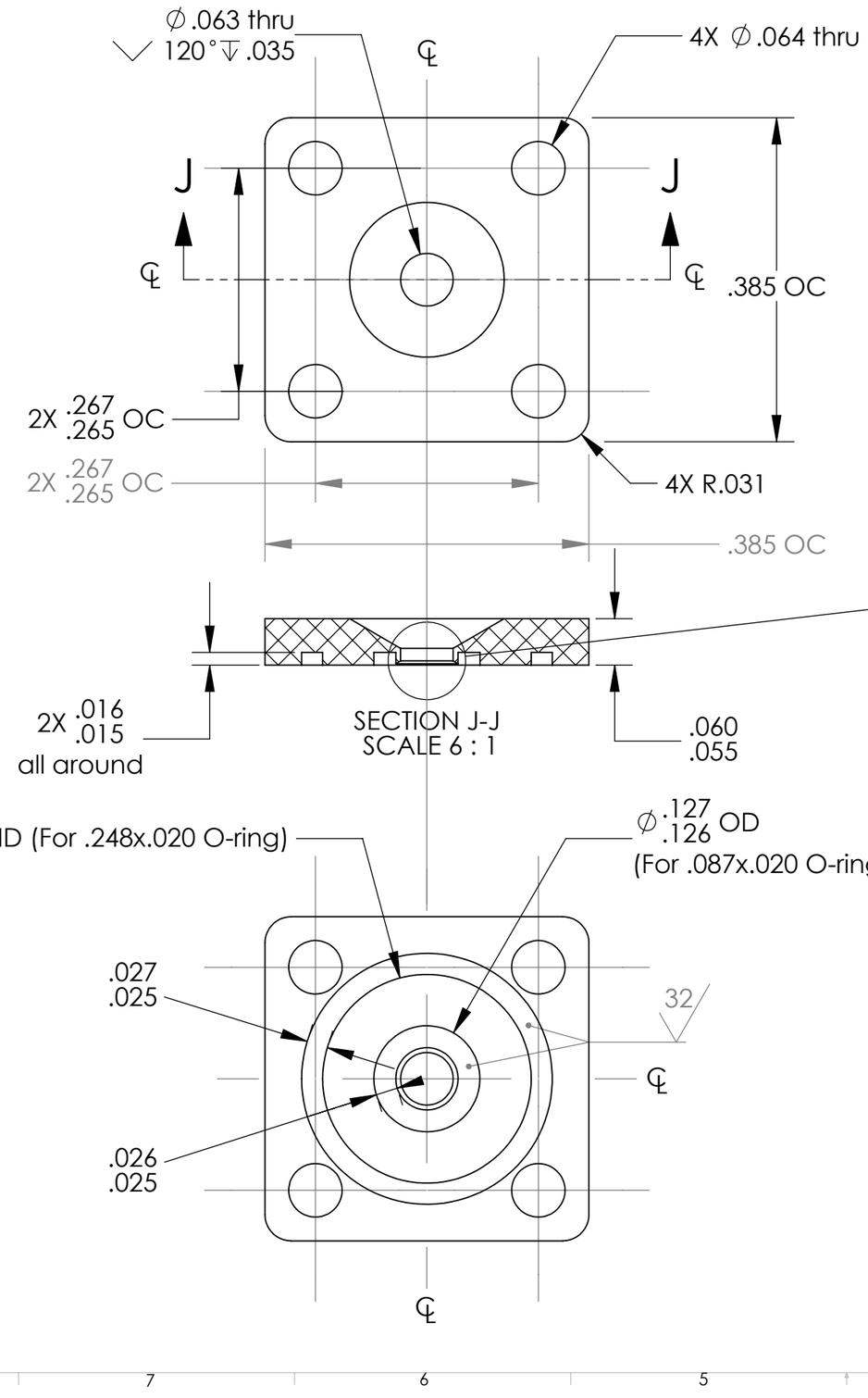
7700 Sandholdt RD.
Moss Landing, CA 95039
PH: (831) 775-1700

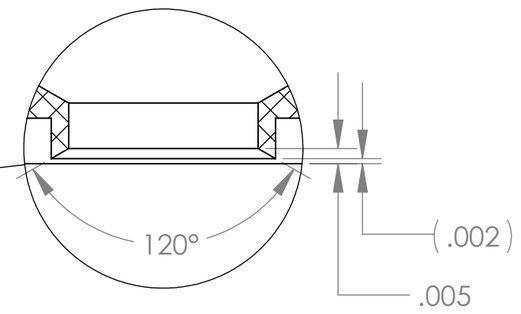
Common DuraFET & Reference

SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

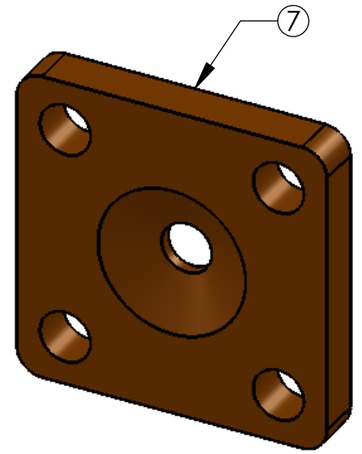
SCALE 1:3 | CAD FILE: Tornado/chem/SWfiles | SHEET 5 OF 6

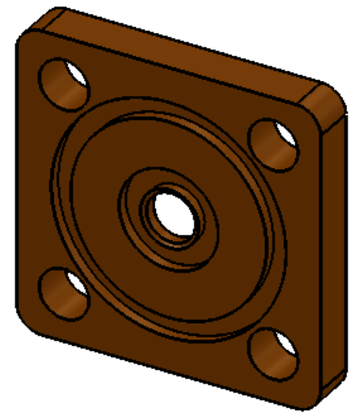
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Modified DFmount and CounterElectrode	9/15/11	hwj
B	Increased cover thickness	10/16/11	hwj
C	Updated and added cover countersink	4/4/16	hwj





DETAIL K
SCALE 20 : 1





Item No.	Qty	Part No.	Description	Material Specification
7	1		DuraFET Cover	PEEK (natural)

Bill of Materials

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	
Shop Foreman		1. DIMENSIONS ARE IN INCHES				
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.				
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.				
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5				
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				
Application		DO NOT SCALE DRAWING				

APPROVALS	DATE
DRAWN Hans Jannasch	5/30/11
ENGINEER	
CHECKED	
PROJECT NO. 900918	
PROJECT Novel Sensors	
WEIGHT	

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

Common DuraFET & Reference

SIZE	DWG. NO.	REV.
B	242jahaCommonDF+Ref	C

SCALE 1:3 | CAD FILE: Tornado/chem/SWfiles | SHEET 6 OF 6