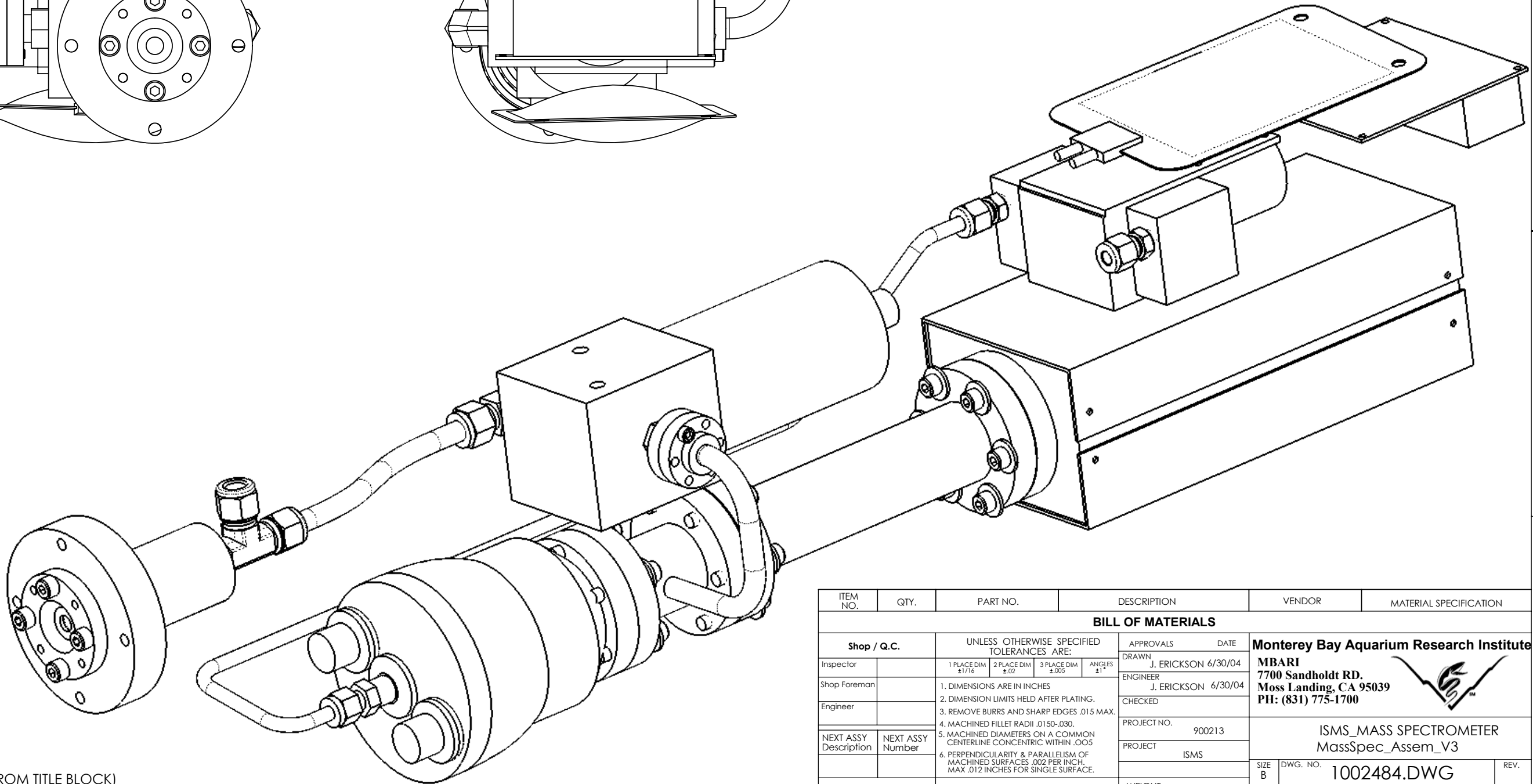
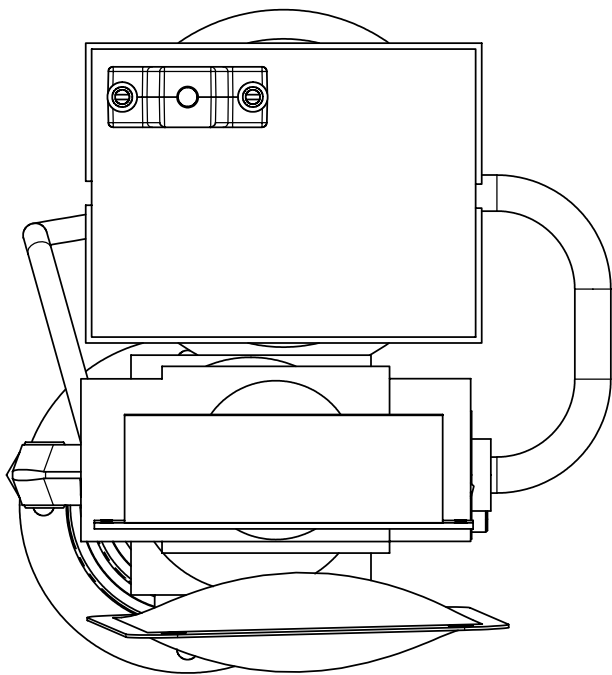
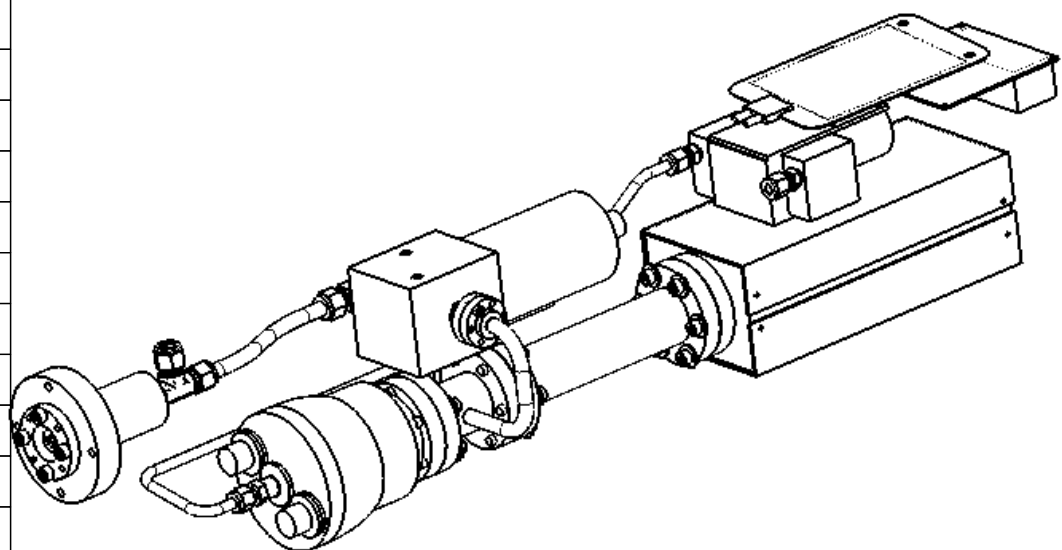




ITEM NO.	QTY.	PART NO.	DESCRIPTION	VENDOR	MATERIAL SPECIFICATION
BILL OF MATERIALS					
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS DATE	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°
Shop Foreman		1. DIMENSIONS ARE IN INCHES		DRAWN J. ERICKSON 6/30/04	
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.		ENGINEER J. ERICKSON 6/30/04	
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.		CHECKED	
		4. MACHINED FILET RADII .0150-.030.		PROJECT NO. 900213	
NEXT ASSY Description	NEXT ASSY Number	5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005		PROJECT ISMS	
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX. .012 INCHES FOR SINGLE SURFACE.		SIZE B DWG. NO. 1002484.DWG	
Application		DO NOT SCALE DRAWING		WEIGHT lb.	
				SCALE 1:4 CAD FILE: MECH ENG ON TORNADO SHEET 1 OF 2	

NOTES: (CONT. FROM TITLE BLOCK)

8				7				6				5				4				3				2				1									
ITEM NO				DESCRIPTION				Vendor				MATERIAL				PART NUMBER				REV. DESCRIPTION DATE APPROVED																	
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.																				INITIAL RELEASE X/XX/00 J.E.																	
D				1	1	SANFORD RESEARCH						MassSpec_SRS-xxx																									
					1	Electronics						SRS-xxx																									
					1	QuadraPole						QuadraPole																									
				2	1	PLUG						DB15																									
				3	1	HYBRID TURBOMOLECULAR PUMP		ALCATEL				Alcatel ATH31+																									
				4	18	SOC HD CAP SCRESW		MCMASTER-CARR		316 SS		[948] ¼ -20 UNC x 1¼																									
				5	18	SAE FLAT WASHER		McMASTER-CARR		316 SS		[18] ¼" SAE																									
				6	2	XXXXXXXXXX						A&N_DN16-ISO-KF																									
				7	1							SpliceTubeAssem3																									
					1	3/8 TUBE				316 SS		SpliceTube3																									
				8	1							MembraneBulkHd_Asem1																									
					1	XXXXXXXXXX				316 SS		MembraneBulkHd_Adaptor																									
					1	O-RING				BUNA - N		2-132																									
					1	O-RING				BUNA - N		2-140																									
				C				1	1/2 FRIT 2.0 MICRON		UPCHURCH SCIENTIFIC		316 SS		Frit_Disk																						
	1	O-RING								BUNA - N		2-017																									
	1	O-RING								BUNA - N		2-012																									
	1	O-RING								BUNA - N		2-023																									
	1	RND. BAR								316 S.S.		Membrane_Cover_V1																									
	4	SOC HD CAP SCRESW						MCMASTER-CARR		316 SS		[944] ¼ -20 UNC x 0.625																									
	1											SS-600-3TST																									
9	1	XXXXXXXXXX										Circle Seal_SV400																									
10	1	TUBE ADAPTOR						A&N CORP		316 S.S.		A&N_QF16x25-SWG																									
11	1	1/4 TUBE								316 S.S.		Pump-Tube																									
12	1	DIAPHRAM VACUUM PUMP						KNF Neuberger				KNF_N84.3ANDC																									
13	2											SS-400-1-2																									
14	1											BAG																									
15	1	XXXXXXXXXX										SS-600-2-6ST																									
B				16	1					Ionizer_CF-Tee Assem																											
					1	HALF NIPPLE		A&N CORP		304 SS		A&N Half-Nipple_275-150-LF-T																									
					1	WELDABLE FLANGE		A&N CORP		304 SS		A&N CF_Flange-275-150																									
					1	3/8 TUBE				316 SS		375x065_Tube																									
					1	Mini-CF-Flange-Rotatable		A&N Corp		304 SS		A&N_Mini-CF-133-000-R-WNB																									
				17	1	XXXXXXXXXX						Alcatel PumpController																									
				18	1							Adaptor-Assem																									
					1	XXXXXXXXXX						SS-600-1-6ST_V2																									
					1							A&N_Mini-CF-133-000-T																									
				19	1	SOC HD CAP SCRESW		MCMASTER-CARR		316 SS		V744] #8 -32 UNC x 0.625																									
				A												UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE															
																1 PLACE DIM ±1/16				2 PLACE DIM ±.02				3 PLACE DIM ±.005				ANGLES ±1°				DRAWN		J. ERICKSON		6/30/04	
																																ENGINEER		J. ERICKSON		6/30/04	
																												CHECKED									
																												PROJECT NO.		900213							
																												PROJECT		ISMS							
																												WEIGHT									



NOTES:(CONT. FROM TITLE BLOCK)

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 					
1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN		J. ERICKSON 6/30/04						
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		J. ERICKSON 6/30/04						
				CHECKED								
				PROJECT NO.		900213		ISMS_MASS SPECTROMETER MassSpec_Asem_V3				
				PROJECT		ISMS	SIZE B		DWG. NO.	1002484.DWG	REV.	
				WEIGHT			SCALE		1:4	CAD FILE: MECH ENG ON TORNADO	SHEET 2 OF 2	

DO NOT SCALE DRAWING