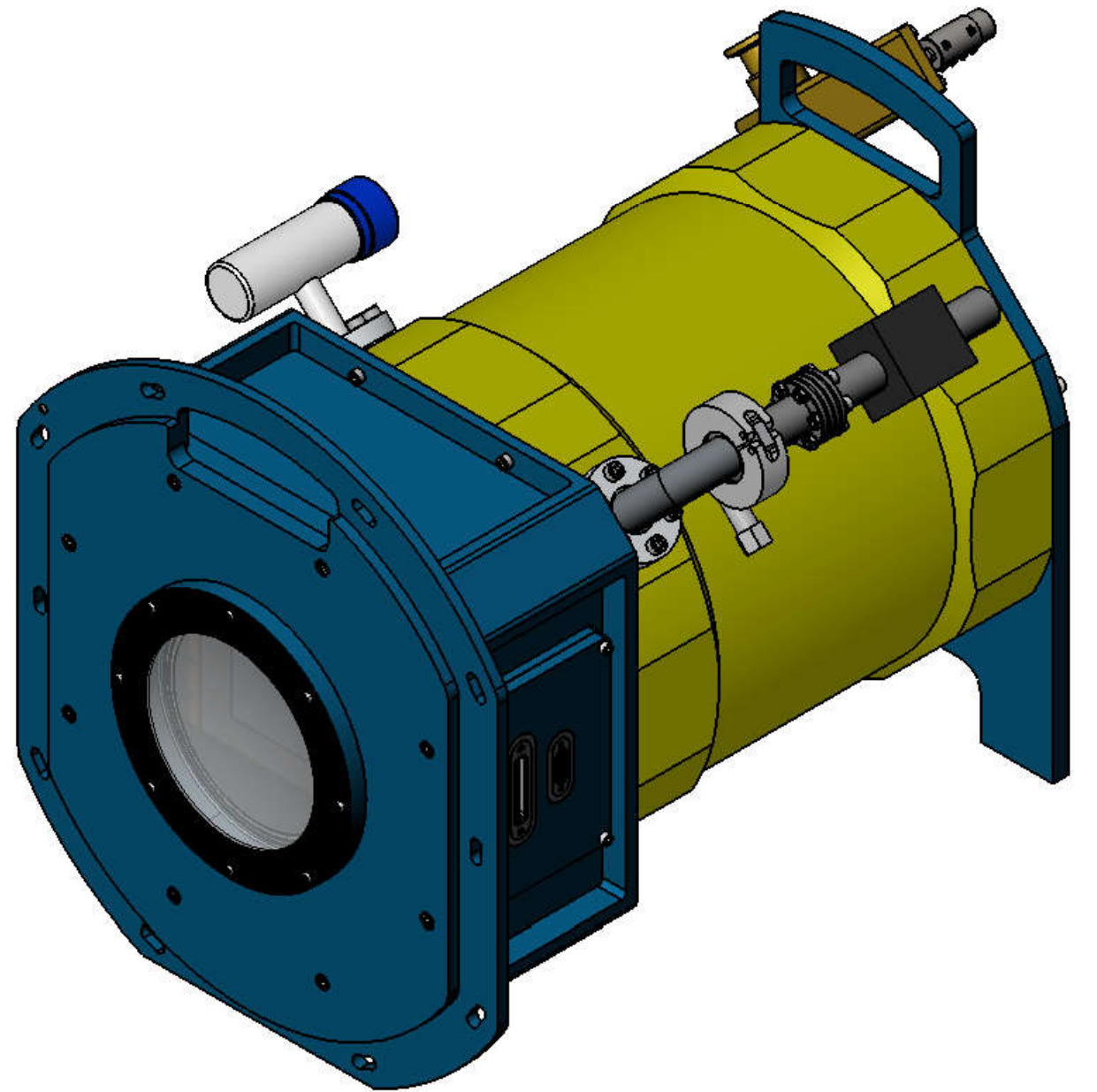
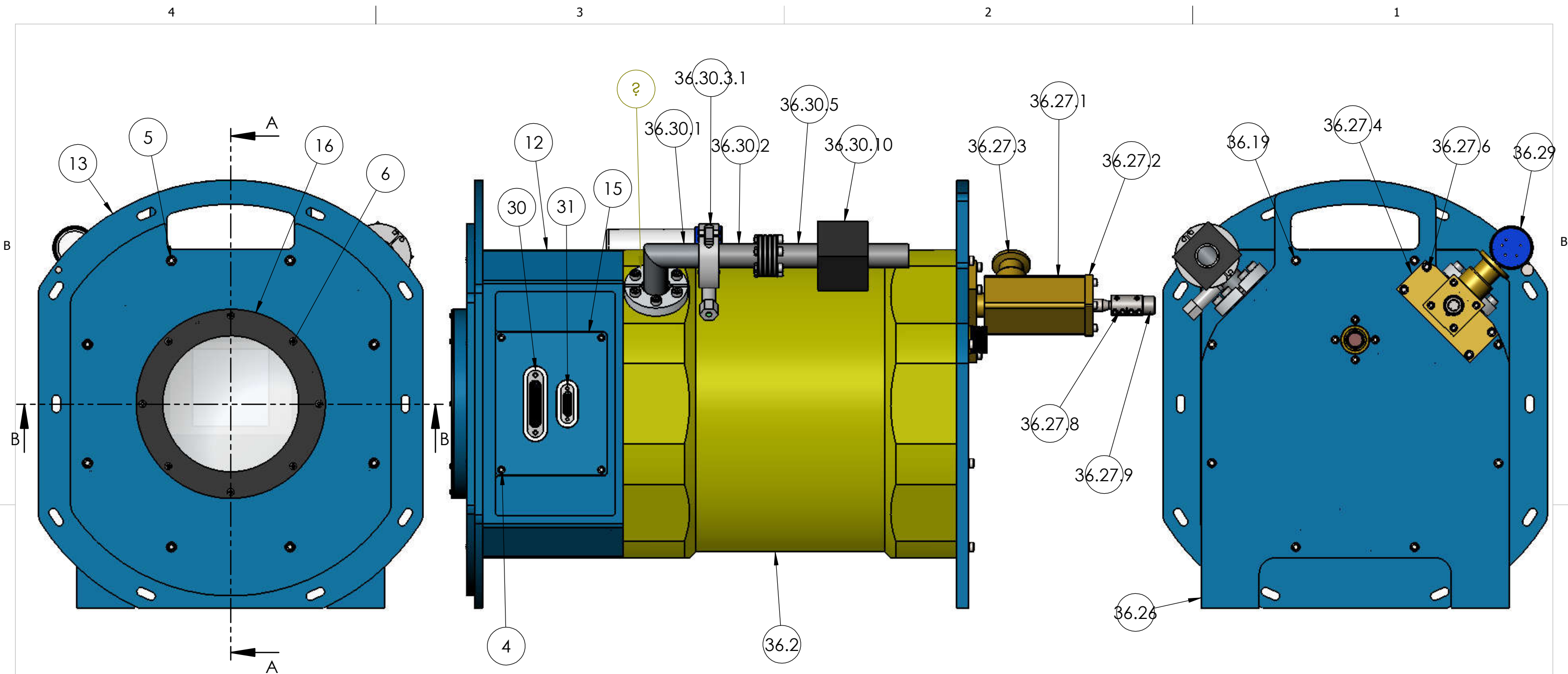


4				3			
ITEM	PART NUMBER	DESCRIPTION	QTY.	ITEM	PART NUMBER	DESCRIPTION	QTY.
2	McM 8511A12	Press-Fit Fixture Support	1	36.26	PFS15122	Dewar rear plate	1
3	McM 90550A220	FHCS 4-40x5/16 vented	8	36.27	PFS15127	Vacuum valve assembly	1
4	McM 92196A148	SHCS 6-32x1/2	8	36.27.1	BA-75	Key High Vacuum Valve	1
5	McM 92196A196	SHCS 8-32x5/8	12	36.27.2	DB-75	Key High Vacuum Bellow Assembly	1
6	McM 92949A106	BHCS 4-40 x 1/4	8	36.27.3	KSF-0816-2	Key High Vacuum NW16 Stub FLange	1
7	McM 93235A144	SHCS 6-32 x 1/4 vented	3	36.27.4	PFS15124	Vacuum valve offset base	1
8	McM 93235A150	Vented 6-32x5/8 SHCS	3	36.27.5	Parker 2-118	Vacuum Port Seal	1
9	McM 93235A196	SHCS 8-32x5/8	3	36.27.6	McM 92196A193	SHCS 8-32 x 7/16	4
10	McM 93235A325	SHCS M4x16 vented	3	36.27.7	McM 92196A147	SHCS 6-32 x 7/16	4
11	PFS01007	PFS6B lens	1	36.27.8	PFS15126	Vacuum valve coupling	1
12	PFS15102	CCD Head	1	36.27.9	PFS15125	Vacuum valve interface	1
13	PFS15103	CCD Face Plate	1	36.27.10	McM 94355A182	8-32 x 3/16 Set screw	3
14	PFS15104	CCD Blank Side Plate	1	36.27.11	McM 92785A192	Set Screw 8-32x3/8 cone point	1
15	PFS15105	CCD STA Connector Plate	1	36.28	PFS15121	Cold Plate Radiation Shield	1
16	PFS15106	Flattener Retaining Ring	1	36.29	GP-275203	Convectron vacuum gauge	1
17	PFS15107	CCD Insulating Standoff	3	36.30	PFS00036	10k STA CCD Camera	1
18	PFS15108	CCD Insulating Standoff Bottom Cap	3	36.30.1	QF16-075-EAL	Lesker Al KF16 90 degree miter elbow	1
19	PFS15109	CCD Insulating Standoff Top Cap	3	36.30.2	F0133XQF16	Lesker SS 1-1/3" CF to KF16 adapter	1
20	PFS15110	CCD Adjustment Post	3	36.30.3	QF16-075-C	Lesker Al KF16 Clamp	1
21	PFS15111	CCD Adjustment Post Receiver	3	36.30.4	QF16-075-ARB	Lesker Al KF16 centering ring	1
22	PFS15112	STA1600 Mount Plate	1	36.30.5	9190520	Varian ion pump (Agilent)	1
23	PFS15113	CCD Warm Mask	1	36.30.6	GA-0133	Lesker 1-1/3 OFHC Copper Gasket	1
24	PFS15119	Detector radiation shield	1	36.30.7	McM 90730A009	Hex Nut 8-32	6
25	Parker 2-156	Side Plate Vacuum Seal	2	36.30.8	McM 90946A725	Washer #8	12
26	Parker 2-157	Window Vacuum Seal	1	36.30.9	McM 92196A197	SHCS 8-32x3/4	6
27	Parker 2-159	Window Centering Ring	1	36.30.10	9190038	Varian pole piece assembly	1
28	Parker 2-270	Large Dewar Vacuum Seal	1	36.31		Liquid nitrogen	1
29	Parker 2-274	Face Plate Vacuum Seal	1				
30	SRIMD5004-100	SRI Hermetics Micro-D connector	1				
31	SRIMD5004-25	SRI Hermetics Micro-D connector	1				
32.1	PFS15120	PCB Standoff	1				
32.2	McM 91732A701	Helical Insert 4-40 x 0.224	2				
32.3	McM 92196A106	SHCS 4-40 x 1/4	2				
33		STA1600 pre-amplifier assembly	1				
34.1	PFS15116	Thermal control block	1				
34.2	PFS15117	Thermal control block clamp	1				
34.3	McM 92196A193	SHCS 8-32 x 7/16	4				
34.4	McM 93235A314	SHCS M3 x 12 vented	5				
34.5	Microtherm	Thermal cut-off	1				
34.6		Heating resistor TO220 package	1				
34.7	McM 93235A311	SHCS M3 x 6 vented	1				
34.8	PFS15115	Cold Strap	1				
34.9	McM 93914A077	M3x4.5 Helical insert Nitronic 60	2				
34.10	McM 96246A130	8-32x0.246 Helicoil Nitronic 60	4				
34.11	PFS15118	Cold plate interface clamp	1				
34.12	McM 93235A112	SHCS 4-40 x 5/8 vented	4				
34.13	PFS15114	Cold Plate Interface	1				
34.14			2				
34.15	PFS15144	TCO clip	1				
34.16	McM 91111A118	Split Lock Washer for M3	1				
35	STA1600LN	10Kx10K CCD	1				
36	ND-8	Customized IR Labs dewar	1				

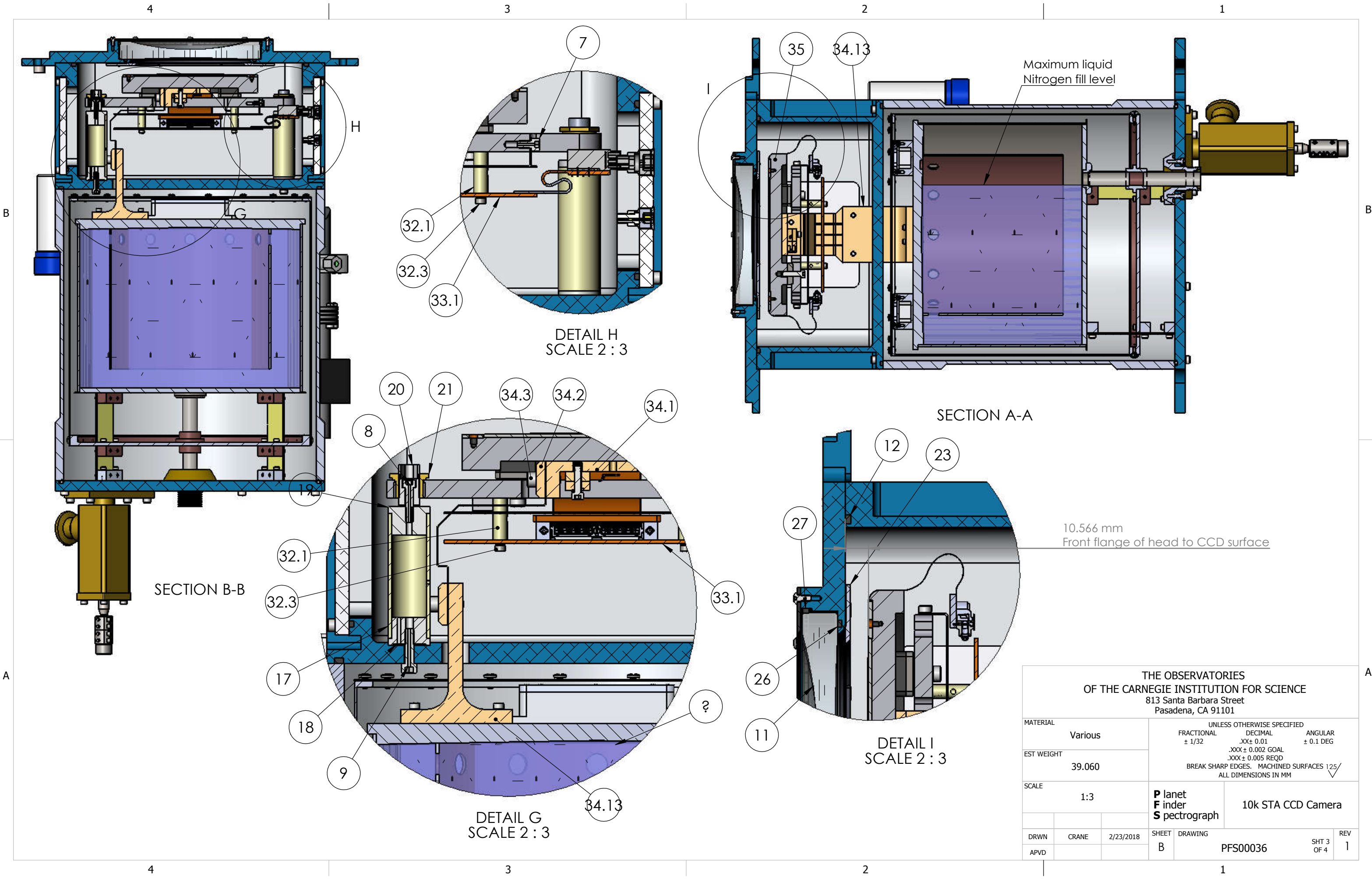


THE OBSERVATORIES OF THE CARNEGIE INSTITUTION FOR SCIENCE 813 Santa Barbara Street Pasadena, CA 91101					
MATERIAL	Various		UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR ± 1/32 .XX ± 0.01 ± 0.1 DEG		
EST WEIGHT	39.060		.XXX ± 0.002 GOAL .XXX ± 0.005 REQD BREAK SHARP EDGES. MACHINED SURFACES 125/√ ALL DIMENSIONS IN INCHES		
SCALE	1:3		Planet Finder Spectrograph		10k STA CCD Camera
DRWN	CRANE	2/23/2018	SHEET	DRAWING	REV
APVD			B	PFS00036	SHT 1 OF 4 1



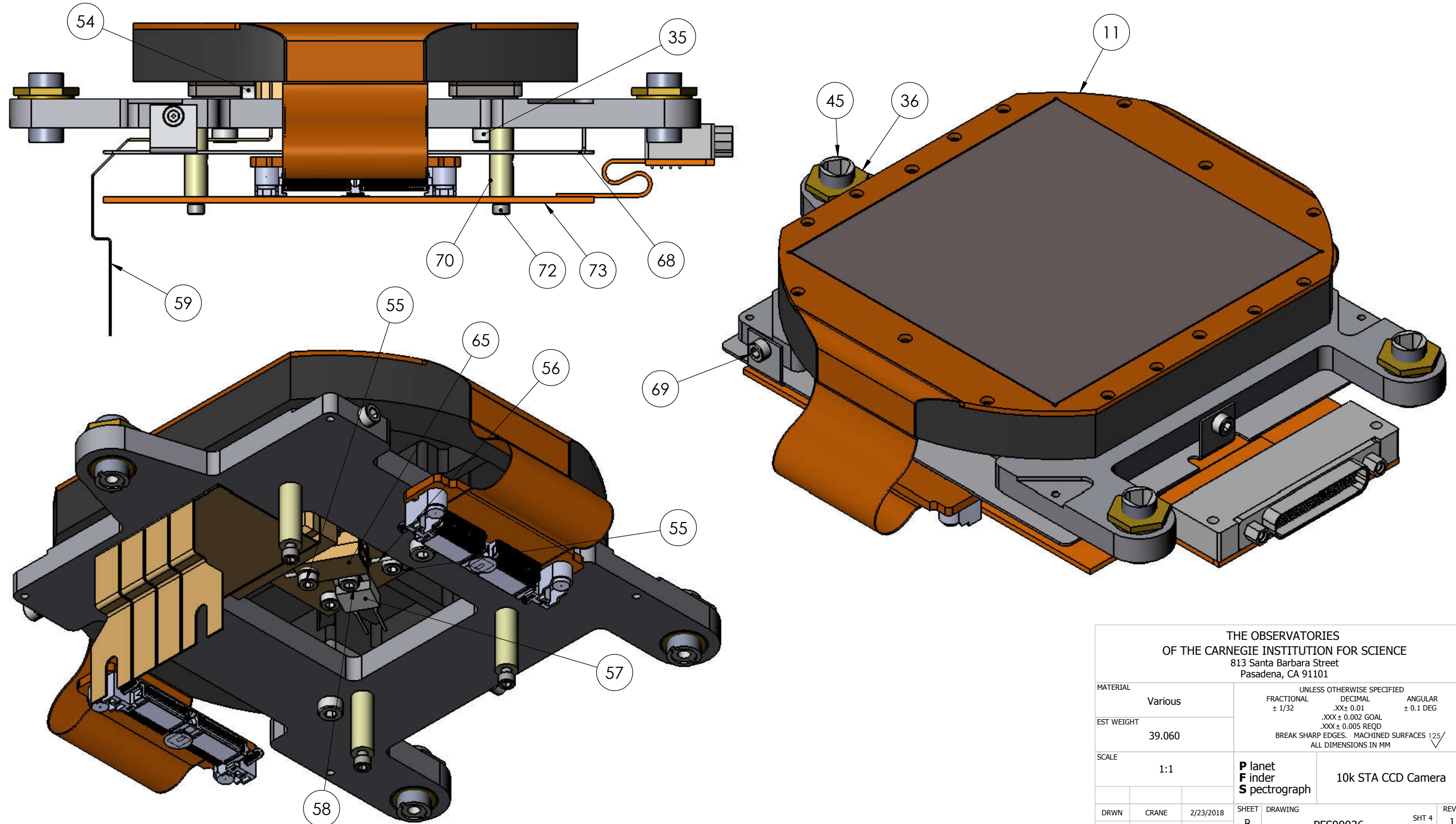
THE OBSERVATORIES  
 OF THE CARNEGIE INSTITUTION FOR SCIENCE  
 813 Santa Barbara Street  
 Pasadena, CA 91101

MATERIAL	Various	UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR $\pm 1/32$ .XX $\pm 0.01$ $\pm 0.1$ DEG		
EST WEIGHT	39.060	.XXX $\pm 0.002$ GOAL .XXX $\pm 0.005$ REQD BREAK SHARP EDGES. MACHINED SURFACES 125/ ALL DIMENSIONS IN MM		
SCALE	1:3	Planet Finder Spectrograph	10k STA CCD Camera	
DRWN	CRANE		SHEET	REV
APVD	2/23/2018	B	PFS00036	SHT 2 OF 4 1



THE OBSERVATORIES OF THE CARNEGIE INSTITUTION FOR SCIENCE 813 Santa Barbara Street Pasadena, CA 91101					
MATERIAL	Various		UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR $\pm 1/32$ .XX $\pm 0.01$ $\pm 0.1$ DEG		
EST WEIGHT	39.060		.XXX $\pm 0.002$ GOAL .XXX $\pm 0.005$ REQD BREAK SHARP EDGES. MACHINED SURFACES 125/ ALL DIMENSIONS IN MM		
SCALE	1:3		<b>P</b> lanet <b>F</b> inder <b>S</b> pectrograph		10k STA CCD Camera
DRWN	CRANE	2/23/2018	SHEET	DRAWING	REV
APVD			B	PFS00036	SHT 3 OF 4 1

Assemble components shown prior to insertion into main head.



THE OBSERVATORIES  
 OF THE CARNEGIE INSTITUTION FOR SCIENCE  
 813 Santa Barbara Street  
 Pasadena, CA 91101

MATERIAL	Various	UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR $\pm 1/32$ .XX $\pm 0.01$ $\pm 0.1$ DEG		
EST WEIGHT	39.060	.XXX $\pm 0.002$ GOAL .XXX $\pm 0.005$ REQD BREAK SHARP EDGES. MACHINED SURFACES 125/ ALL DIMENSIONS IN MM		
SCALE	1:1	Planet Finder Spectrograph	10k STA CCD Camera	
DRWN	CRANE		2/23/2018	SHEET DRAWING
APVD		B	PFS00036	SHT 4 OF 4 REV 1