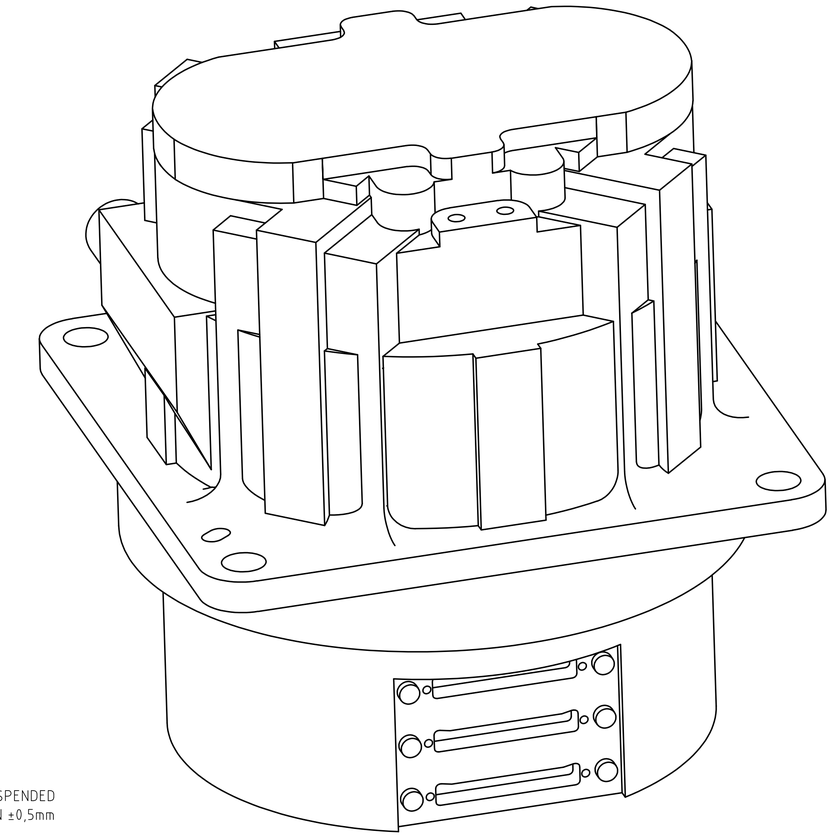
REVISIONS																
LTR	ZONE	DESCRIPTION	CODE IDENT	DWN	CHK	STRUCT	MATL	THRM CONT			ENGR	DSGN SUPV	DATA MGT	RELEASE DATE
A		INITIAL RELEASE	CODE B	SEE TITLE BLOCK									RTN	12/7/01
B		UPDATED: MASS & CG'S, FILTER SHAPE,VOLUME NEED AROUND CAPSTANS, CONN. POSITIONS. REMOVED MODES AND MASS PARTICIPATION; ROTATED PIXEL MAP 180°.	B											



GENERAL VIEW
REFERENCE ONLY

9. ALL DIMENSIONS SHOWN FOR THE 300mK STAGE ARE FOR THE NOMINAL SUSPENDED POSITION. THE SUSPENDED UNIT MAY BE SHIFTED FROM NOMINAL POSITION ±0,5mm IN ANY AXIS.

8. ONLY PIXELS, DOWEL PIN HOLES, AND SLOTS VISIBLE. ALL OTHER FEATURES OMITTED FOR CLARITY.

7. FOR PHOTOMETER AND SPECTROMETER SUBSYSTEM INTERFACE DATA AND LAYOUT CONFIGURATION, SEE SHEETS 5-7.

6. DIMENSIONS IN {} ARE CALCULATED FOR OPERATING TEMPERATURE AND ARE PROVIDED FOR REFRENCE ONLY. ALL OTHED DIMENSIONS ARE BASED ON AN ASSEMBLY TEMPERATURE OF 20° C.

5. INDICATES CONNECTOR POSITION. CONNECTORS INSTALLED ARE NANONIC STM 051 M6SN.

4. REFER TO TABLES ON SHEETS 5, 6, AND 7 FOR DIFFERENCES BETWEEN DETECTOR ARRAYS.

3. ASSEMBLY REFERENCE DESIGNATOR, TITLE, PART NUMBER, REVISION LETTER, AND SERIAL NUMBER TO APPEAR AS SHOWN IN THIS AREA.

2. THIS IS THE INTERFACE CONTROL DRAWING FOR THE BOLOMETER DETECTOR ARRAY, JPL PART NUMBER 10209800. JPL DRAWING NUMBER 10209800 SHALL CONTAIN THE FOLLOWING NOTE: THIS ASSEMBLY MEETS THE INTERFACE REQUIREMENTS OF JPL INTERFACE CONTROL DRAWING 10209721.

1. THIS TECHNICAL DATA IS EXPORT CONTROLLED UNDER U.S. LAW AND IS BEING TRANSFERRED BY JPL TO PPARC PURSUANT TO THE NASA / PPARC LETTER OF AGREEMENT WHICH ENTERED INTO FORCE ON DECEMBER 2, 1999. THIS TECHNICAL DATA IS TRANSFERRED TO PPARC FOR USE EXCLUSIVELY ON THE NASA/PPARC SPIRE ON FIRST COOPERATIVE PROJECT, MAY NOT BE USED FOR ANY OTHER PURPOSE, AND SHALL NOT BE RE-TRANSFERRED OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE PRIOR WRITTEN APPROVAL OF NASA.

NOTES: UNLESS OTHERWISE SPECIFIED

2003.02.12 09:31:49 Z

INTERFACE DRAWING

QTY REQD	ITEM NO	REF DES	CAGE NO	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE	ZONE

PARTS LIST

MATERIAL

METRIC

THIRD ANGLE PROJECTION

SPIRE

NEXT ASSEMBLY | USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS

LINEAR TOLERANCES:

0–6	± 0.1
OVER 6–30	± 0.2
OVER 30–120	± 0.3
OVER 120–315	± 0.5
OVER 315–1000	± 0.8
OVER 1000	± 1.2

ANGULAR TOLERANCES: ± 0.5°

MACHINE FINISH (MICROMETERS) 32

DO NOT SCALE DRAWING

INTERPRET DWG PER ASME Y14.100M

CONTRACT NO 960939

		DATE
APPD		
DWN	D CRUMB	11/9/01
CHK	B BURDICK	11/14/01
STRUCT	K BROWNING	11/19/01
MATL	M KNOPP	11/19/01
THRM CONT		
MSSL	A. J. COKER	11/7/01
	G. LILENTHAL	12/13/01
ENGR	L. HUSTED	11/19/01
DSGN SUPV		

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CA 91109

RELEASED THROUGH EDMG

BOLOMETER DETECTOR ARRAY, MECHANICAL ID, SPIRE

SIZE	CAGE NO		REV
A1	23835	10209721	B

SCALE NONE | UNCLASSIFIED | SHEET 1 OF 7

REV 2/00

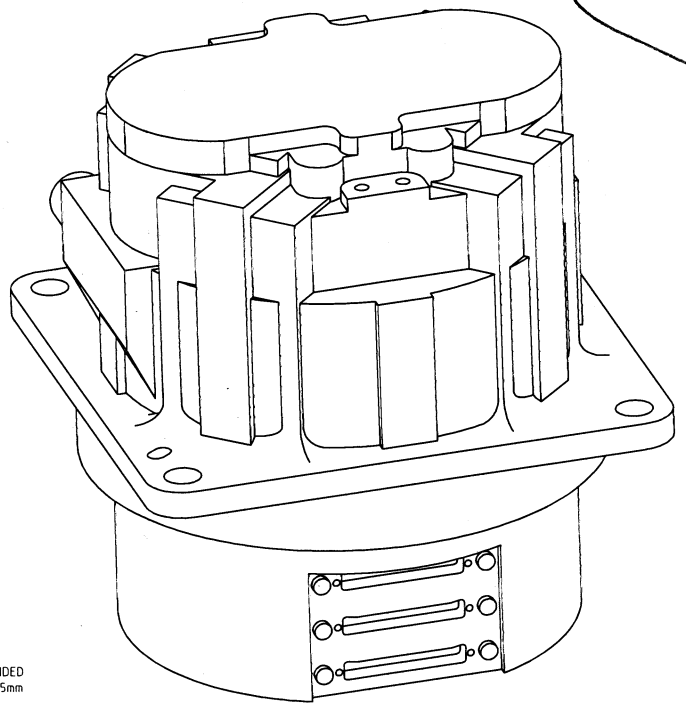
AutoCAD GENERATED

A1 10209721

REVISIONS																	
LTR	ZONE	DESCRIPTION	CODE IDENT	DWN	CHK	STRUCT	MATL	THRM CONT			ENGR	DSGN SUPV	DATA MGT	RELEASE DATE
A		INITIAL RELEASE	CODE ID B						SEE TITLE BLOCK				RTN	12/7/01
B		UPDATED: MASS & CG'S, FILTER SHAPE,VOLUME NEED AROUND CAPSTANS, CONN. POSITIONS. REMOVED MODES AND MASS PARTICIPATION; ROTATED PIXEL MAP 180°	B											

I CONFIRM THAT THE CHANGES DETAILED IN THIS ISSUE (B) OF THE JPL BDA INTERFACE DRAWING ARE ACCEPTABLE TO MSSL.

cdJ Coker 21st FEB 2003



GENERAL VIEW
REFERENCE ONLY

△9 ALL DIMENSIONS SHOWN FOR THE 300mK STAGE ARE FOR THE NOMINAL SUSPENDED POSITION. THE SUSPENDED UNIT MAY BE SHIFTED FROM NOMINAL POSITION ±0,5mm IN ANY AXIS.

△8 ONLY PIXELS, DOWEL PIN HOLES, AND SLOTS VISIBLE. ALL OTHER FEATURES OMITTED FOR CLARITY.

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△5 INDICATES CONNECTOR POSITION. CONNECTORS INSTALLED ARE NANONIC STM 051 M6SN.

△4 REFER TO TABLES ON SHEETS 5, 6, AND 7 FOR DIFFERENCES BETWEEN DETECTOR ARRAYS.

△3 ASSEMBLY REFERENCE DESIGNATOR, TITLE, PART NUMBER, REVISION LETTER, AND SERIAL NUMBER TO APPEAR AS SHOWN IN THIS AREA.

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1. THIS TECHNICAL DATA IS EXPORT CONTROLLED UNDER U.S. LAW AND IS BEING TRANSFERRED BY JPL TO PPARC PURSUANT TO THE NASA / PPARC LETTER OF AGREEMENT WHICH ENTERED INTO FORCE ON DECEMBER 2, 1999. THIS TECHNICAL DATA IS TRANSFERRED TO PPARC FOR USE EXCLUSIVELY ON THE NASA/PPARC SPIRE ON FIRST COOPERATIVE PROJECT, MAY NOT BE USED FOR ANY OTHER PURPOSE, AND SHALL NOT BE RE-TRANSFERRED OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE PRIOR WRITTEN APPROVAL OF NASA.

NOTES: UNLESS OTHERWISE SPECIFIED

INTERFACE DRAWING

QTY REQD	ITEM NO	REF DES	CAGE NO	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE	ZONE

PARTS LIST

MATERIAL

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
LINEAR TOLERANCES:

0-6	± 0.1
OVER 6-30	± 0.2
OVER 30-120	± 0.3
OVER 120-315	± 0.5
OVER 315-1000	± 0.8
OVER 1000	± 1.2

ANGULAR TOLERANCES: ± 0.5°

MACHINE FINISH (MICROMETERS) 3.2

DO NOT SCALE DRAWING

INTERPRET DWG PER ASME Y14.100M

CONTRACT NO 960939

APPD	DATE
DWN B CRUMB	11/9/01
CHK B BURDICK	11/14/01
STRUCT K BROWNING	11/19/01
MATL M KNOPP	11/19/01
THRM CONT	
MSSL A. J. COKER	11/7/01
G. LILENTHAL	12/13/01
ENGR L. HUSTED	11/19/01
DSGN SUPV	

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CA 91109
RELEASED THROUGH EDMS

BOLOMETER DETECTOR ARRAY, MECHANICAL ID, SPIRE

SIZE	CAGE NO		REV
A1	23835	10209721	B

SCALE NONE | UNCLASSIFIED | SHEET 1 OF 7

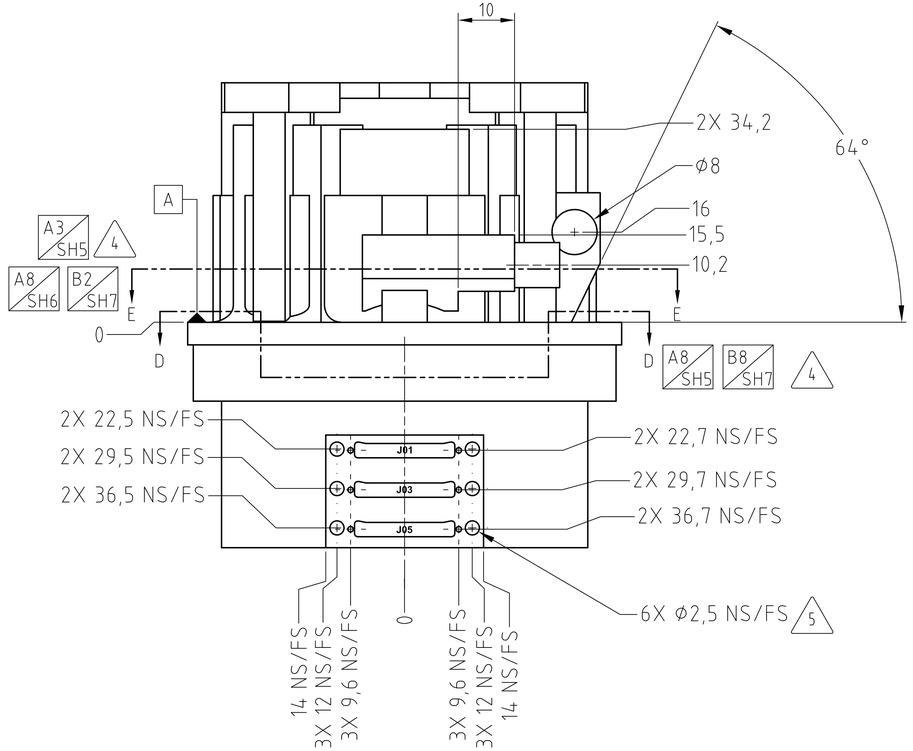
NEXT ASSEMBLY	USED ON
	SPIRE

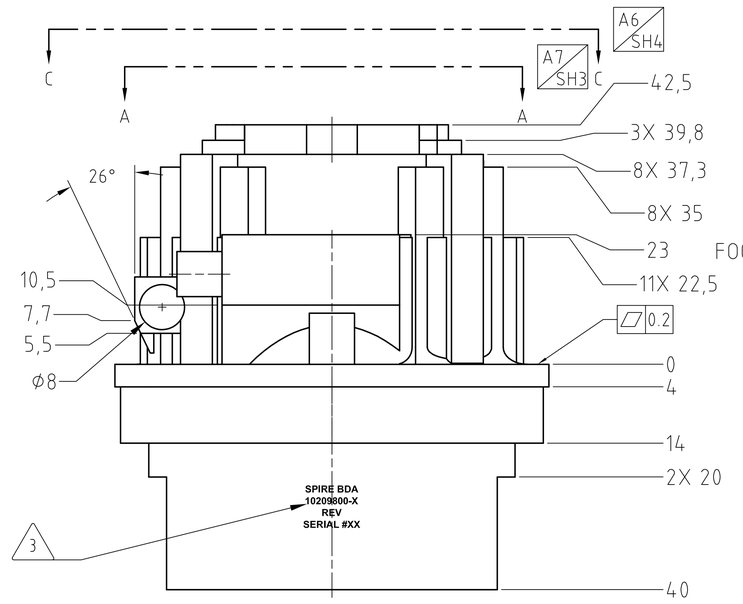
APPLICATION

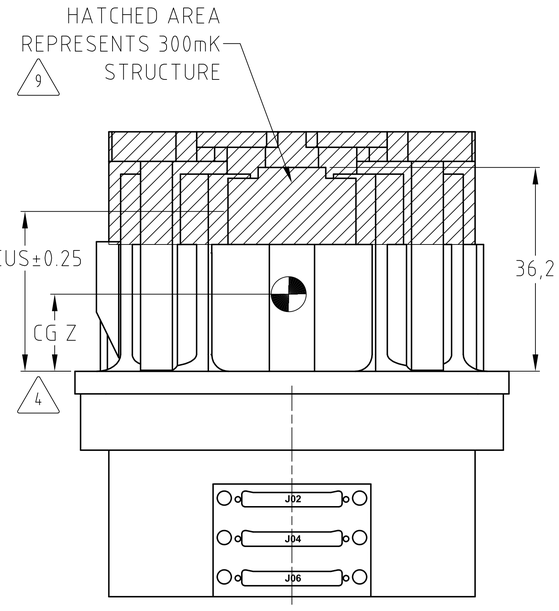
REV 2/00

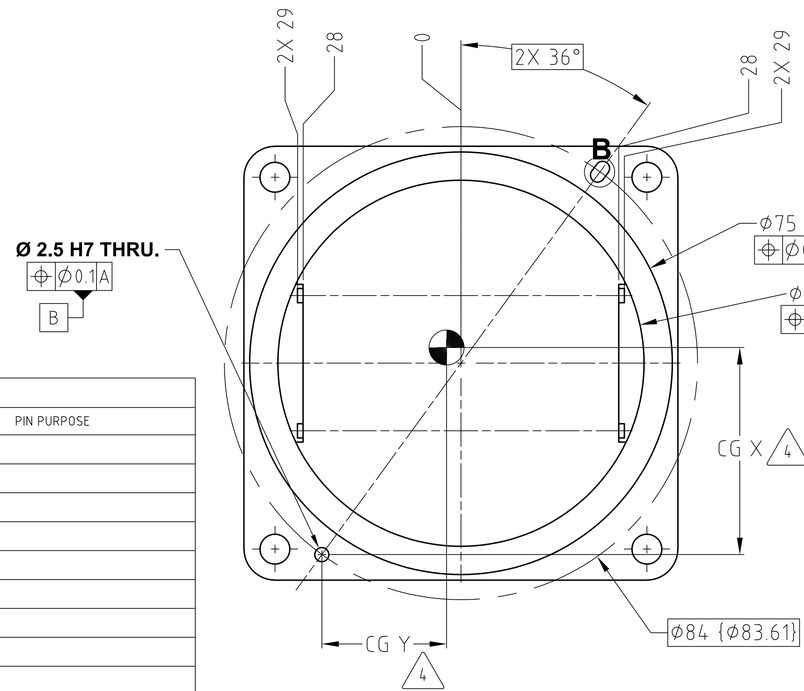
A1 10209721

AutoCAD GENERATED

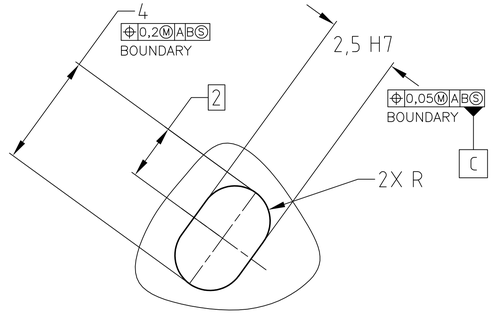








Ø 2.5 H7 THRU.
ϕ0.1 A
B



VIEW B
SCALE: 10:1

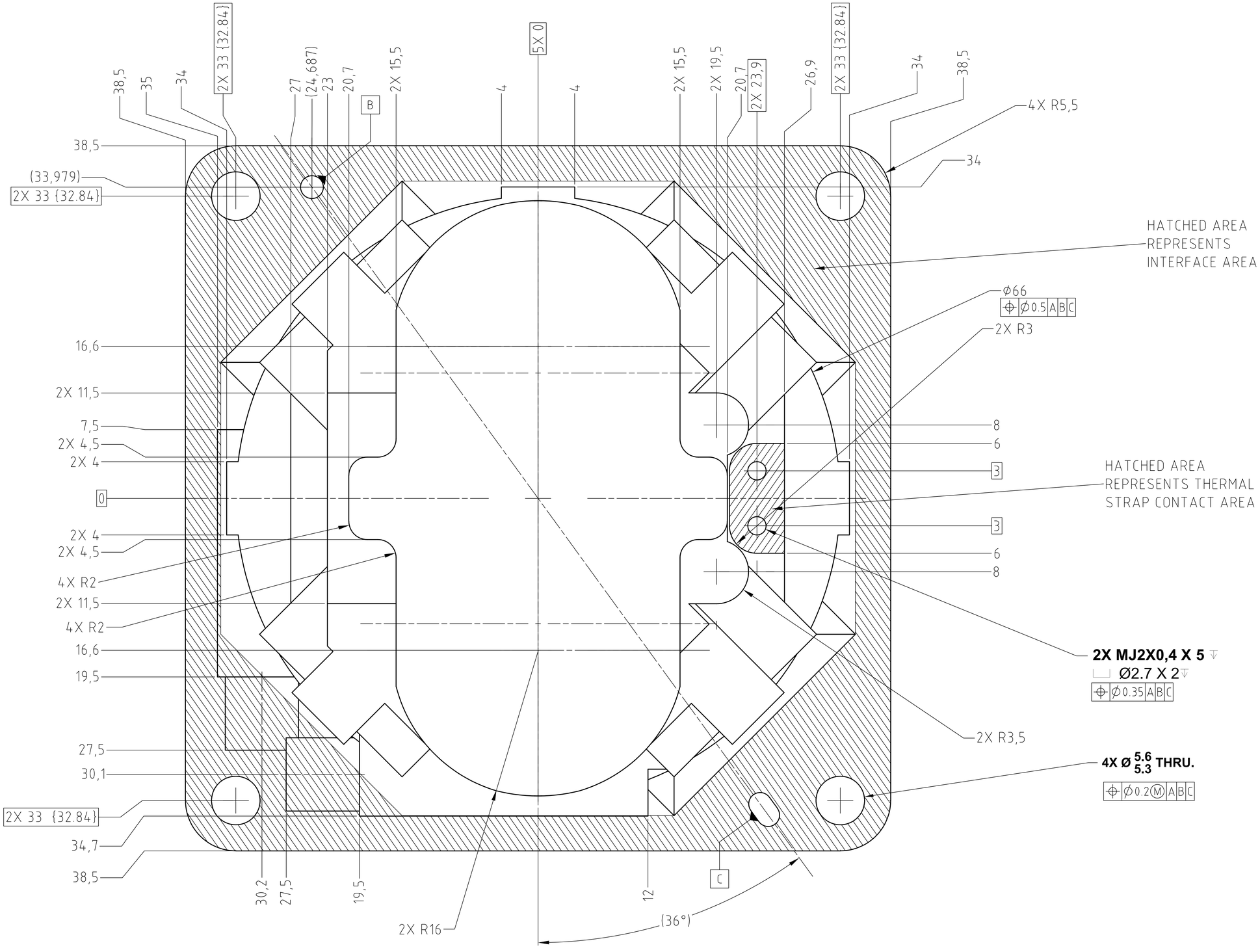
ALL CONNECTORS					
PIN #	PIN PURPOSE	PIN #	PIN PURPOSE	PIN #	PIN PURPOSE
1	SIGNAL A+	18	SIGNAL T+	35	SIGNAL J-
2	SIGNAL B+	19	SIGNAL U+	36	SIGNAL K-
3	SIGNAL C+	20	SIGNAL V+	37	SIGNAL L-
4	SIGNAL D+	21	SIGNAL W+	38	SIGNAL M-
5	SIGNAL E+	22	SIGNAL X+	39	SIGNAL N-
6	SIGNAL F+	23	SIGNAL Y+	40	SIGNAL P-
7	SIGNAL G+	24	SIGNAL Z+	41	SIGNAL R-
8	SIGNAL H+	25	SIGNAL BIAS V+	42	SIGNAL S-
9	SIGNAL I+	26	SIGNAL A-	43	SIGNAL T-
10	SIGNAL J+	27	SIGNAL B-	44	SIGNAL U-
11	SIGNAL K+	28	SIGNAL C-	45	SIGNAL V-
12	SIGNAL L+	29	SIGNAL D-	46	SIGNAL W-
13	SIGNAL M+	30	SIGNAL E-	47	SIGNAL X-
14	SIGNAL N+	31	SIGNAL F-	48	SIGNAL Y-
15	SIGNAL P+	32	SIGNAL G-	49	SIGNAL Z-
16	SIGNAL R+	33	SIGNAL H-	50	SIGNAL BIAS V-
17	SIGNAL S+	34	SIGNAL I-	51	SIGNAL BIAS GND

SIZE	CAGE NO		REV
A1	23835	10209721	B
SCALE 2:1	UNCLASSIFIED	SHEET 2 OF 7	

REV 2/00

AutoCAD GENERATED

A1 10209721



VIEW A-A

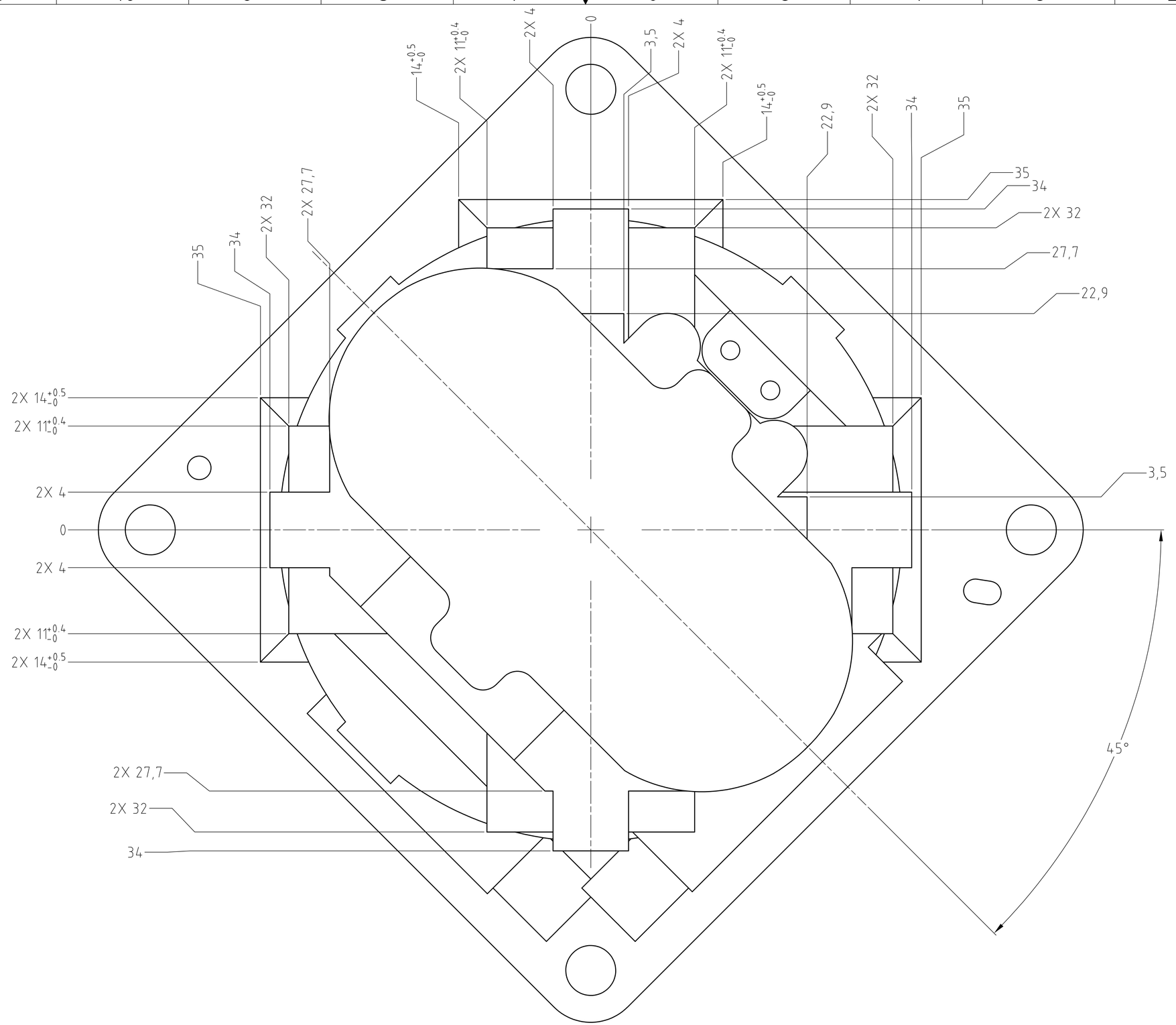
H4 / SH2

SIZE	CAGE NO.		REV
A1	23835	10209721	B
SCALE 2:1	UNCLASSIFIED	SHEET 3 OF 7	

REV 2/00

AutoCAD GENERATED

A1 10209721



VIEW C-C ROTATED 45° CCW H4/SH2

SIZE	CAGE NO		REV
A1	23835	10209721	B
SCALE 2:1	UNCLASSIFIED	SHEET 4 OF 7	

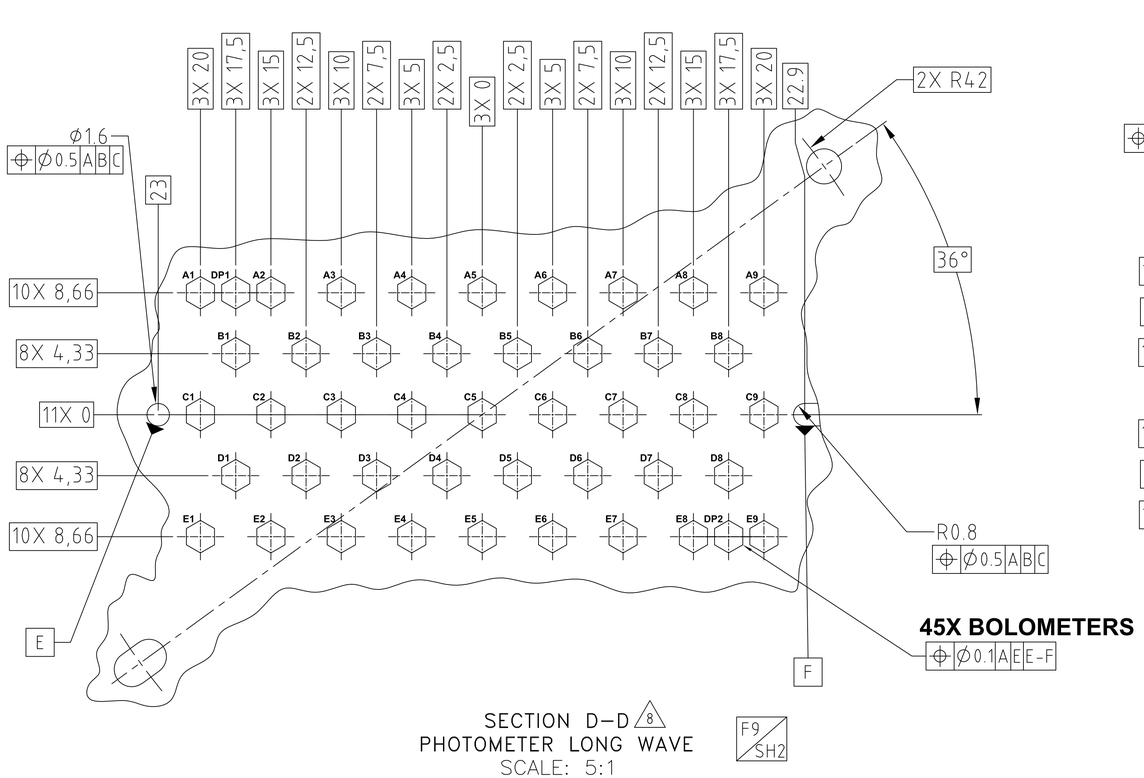
REV 2/00

AutoCAD GENERATED

10209721

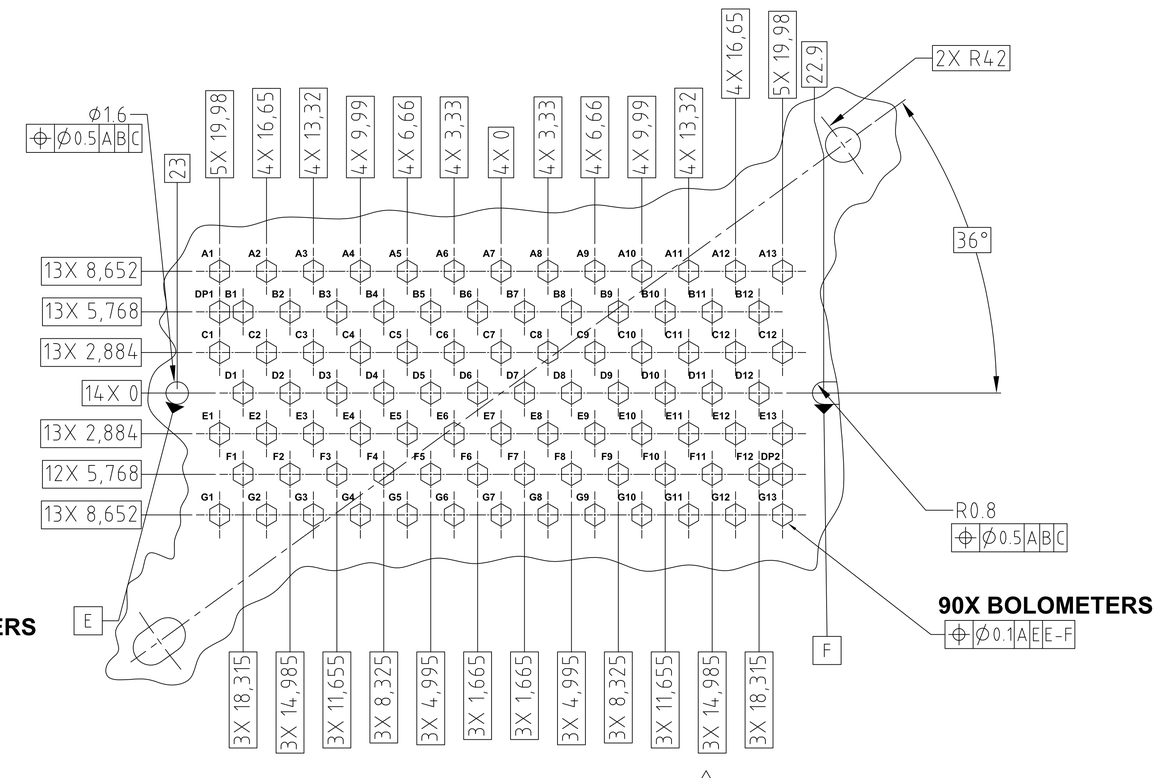
SUBSYSTEM INTERFACE DATA						
UNIT: P/LW						
NUMBER: 10209800-1						
FOCUS: 32.8						
CONNECTOR POSITIONS USED: J05, J06						
MECHANICAL CHARACTERISTICS						
MASS: 632 g						
C.O.G. LOCATION W.R.T. LOCATION HOLE:	X	34.4	Y	24.3	Z	6
MOMENT OF INERTIA:	I_x	772 Kg*mm^2	I_y	1,145 Kg*mm^2	I_z	1,423 Kg*mm^2
MECHANICAL INTERFACE MATERIAL: 7075 AL						
SURFACE FINISH DESCRIPTION: CHEM FILM GOLD						
TOTAL CONTACT AREA: 1783 mm^2						
R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						
THERMAL STRAP INTERFACE MATERIAL: CU 99.999% PURE						
THERMAL STRAP SURFACE FINISH DESCRIPTION: GOLD PLATED						
THERMAL STRAP CONTACT AREA: 57.5 mm^2						
THERMAL STRAP R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						

SUBSYSTEM INTERFACE DATA						
UNIT: P/MW						
NUMBER: 10209800-2						
FOCUS: 33.2						
CONNECTOR POSITIONS USED: J01, J02, J03, J04						
MECHANICAL CHARACTERISTICS						
MASS: 632 g						
C.O.G. LOCATION W.R.T. LOCATION HOLE:	X	34.4	Y	24.3	Z	8.5
MOMENT OF INERTIA:	I_x	764 Kg*mm^2	I_y	1,152 Kg*mm^2	I_z	1,428 Kg*mm^2
MECHANICAL INTERFACE MATERIAL: 7075 AL						
SURFACE FINISH DESCRIPTION: CHEM FILM GOLD						
TOTAL CONTACT AREA: 1783 mm^2						
R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						
THERMAL STRAP INTERFACE MATERIAL: CU 99.999% PURE						
THERMAL STRAP SURFACE FINISH DESCRIPTION: GOLD PLATED						
THERMAL STRAP CONTACT AREA: 57.5 mm^2						
THERMAL STRAP R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						



SECTION D-D ⚠8
PHOTOMETER LONG WAVE
SCALE: 5:1

F9/SH2



SECTION E-E ⚠8
PHOTOMETER MEDIUM WAVE
SCALE: 5:1

G12/SH2

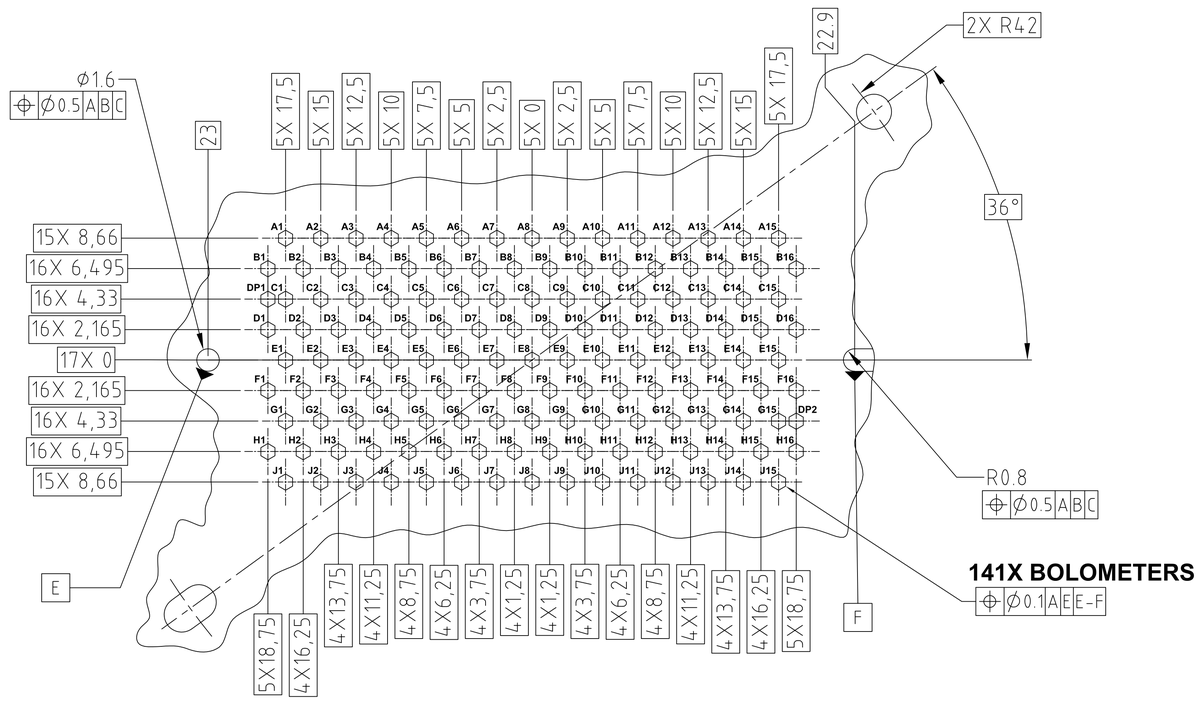
SIZE	CAGE NO		REV
A1	23835	10209721	B
SCALE NOTED	UNCLASSIFIED	SHEET 5 OF 7	

REV 2/00

AutoCAD GENERATED

A1 10209721

SUBSYSTEM INTERFACE DATA						
UNIT: P/SW						
NUMBER: 10209800-3						
FOCUS: 25						
CONNECTOR POSITIONS USED: J01, J02, J03, J04, J05, J06						
MECHANICAL CHARACTERISTICS						
MASS: 600 g						
C.O.G. LOCATION W.R.T. LOCATION HOLE:	X	34.5	Y	24.3	Z	6.5
MOMENT OF INERTIA:	I_x	712 Kg*mm^2	I_Y	1,074 Kg*mm^2	I_z	1,364 Kg*mm^2
MECHANICAL INTERFACE MATERIAL: 7075 AL						
SURFACE FINISH DESCRIPTION: CHEM FILM GOLD						
TOTAL CONTACT AREA: 1783 mm^2						
R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						
THERMAL STRAP INTERFACE MATERIAL: CU 99.999% PURE						
THERMAL STRAP SURFACE FINISH DESCRIPTION: GOLD PLATED						
THERMAL STRAP CONTACT AREA: 57.5 mm^2						
THERMAL STRAP R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						



SECTION E-E (8)
PHOTOMETER SHORT WAVE
SCALE: 5:1

G12/SH2

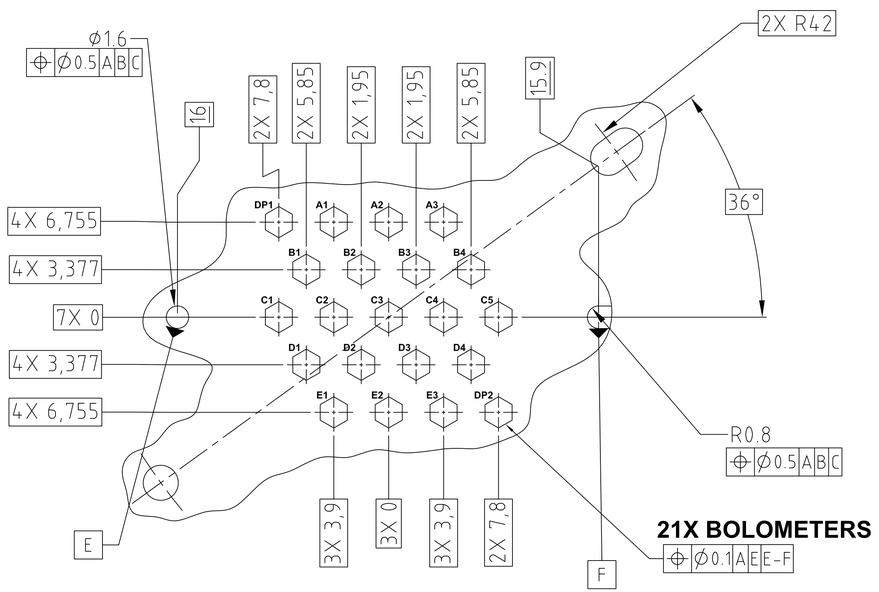
SIZE	CAGE NO		REV
A1	23835	10209721	B
SCALE NOTED	UNCLASSIFIED	SHEET 6 OF 7	

REV 2/00

AutoCAD GENERATED

A1 10209721

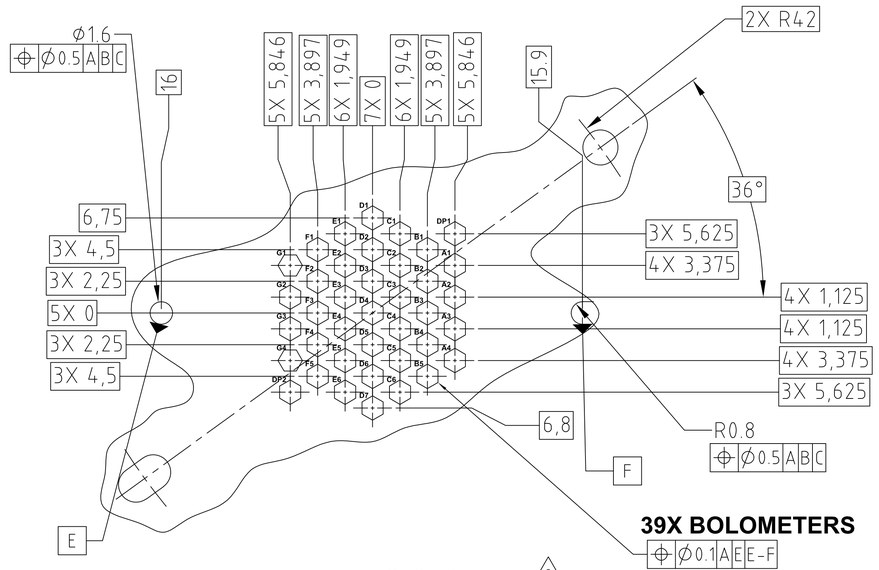
SUBSYSTEM INTERFACE DATA						
UNIT: S/LW						
NUMBER: 10209800-4						
FOCUS: 36.9						
CONNECTOR POSITIONS USED: J05						
MECHANICAL CHARACTERISTICS						
MASS: 550 g						
C.O.G. LOCATION W.R.T. LOCATION HOLE:	X	34.5	Y	24.1	Z	4.4
MOMENT OF INERTIA:	I_x	665 Kg*mm^2	I_y	990 Kg*mm^2	I_z	1,239 Kg*mm^2
MECHANICAL INTERFACE MATERIAL: 7075 AL						
SURFACE FINISH DESCRIPTION: CHEM FILM GOLD						
TOTAL CONTACT AREA: 1783 mm^2						
R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						
THERMAL STRAP INTERFACE MATERIAL: CU 99.999% PURE						
THERMAL STRAP SURFACE FINISH DESCRIPTION: GOLD PLATED						
THERMAL STRAP CONTACT AREA: 57.5 mm^2						
THERMAL STRAP R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						



SECTION D-D ⚠8
SPECTROMETER LONG WAVE
SCALE: 5:1

F9/SH2

SUBSYSTEM INTERFACE DATA						
UNIT: S.SW						
NUMBER: 10209800-5						
FOCUS: 26.7						
CONNECTOR POSITIONS USED: J05, J06						
MECHANICAL CHARACTERISTICS						
MASS: 510 g						
C.O.G. LOCATION W.R.T. LOCATION HOLE:	X	34.6	Y	24.2	Z	6
MOMENT OF INERTIA:	I_x	628 Kg*mm^2	I_y	936 Kg*mm^2	I_z	1,189 Kg*mm^2
MECHANICAL INTERFACE MATERIAL: 7075 AL						
SURFACE FINISH DESCRIPTION: CHEM FILM GOLD						
TOTAL CONTACT AREA: 1783 mm^2						
R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						
THERMAL STRAP INTERFACE MATERIAL: CU 99.999% PURE						
THERMAL STRAP SURFACE FINISH DESCRIPTION: GOLD PLATED						
THERMAL STRAP CONTACT AREA: 57.5 mm^2						
THERMAL STRAP R.M.S. ROUGHNESS OF CONTACT AREA: 3.2 uM						



SECTION E-E ⚠8
SPECTROMETER SHORT WAVE
SCALE: 5:1

G12/SH2

SIZE	CAGE NO		REV
A1	23835	10209721	B
SCALE 5:1	UNCLASSIFIED	SHEET 7 OF 7	

REV 2/00

AutoCAD GENERATED

A1 10209721