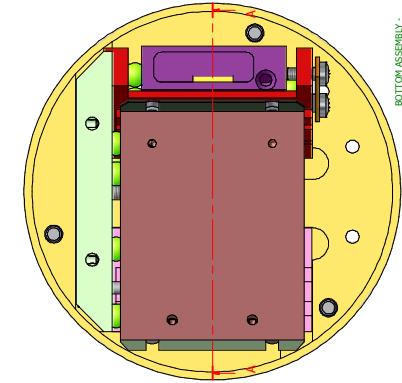
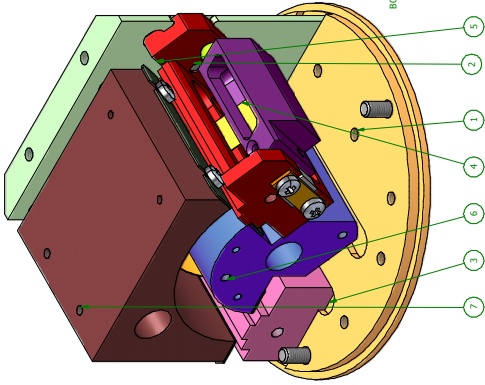


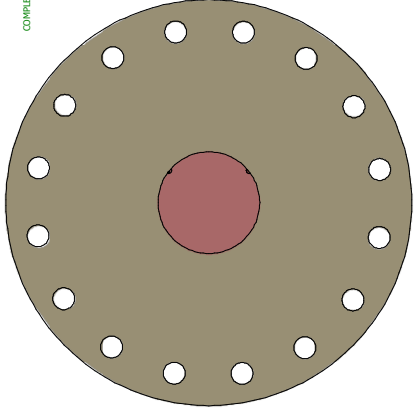
RESIDUAL GAS ION SPECTROMETER
- MAIN ASSEMBLY



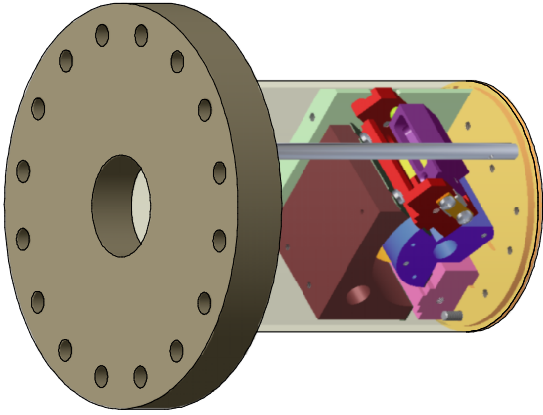
BOTTOM ASSEMBLY -
PLAN VIEW



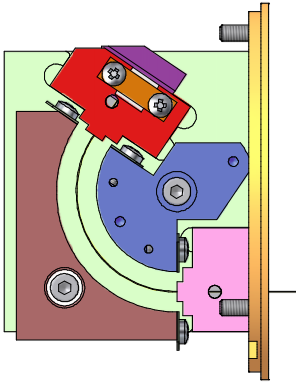
BOTTOM ASSEMBLY -
ISOMETRIC VIEW



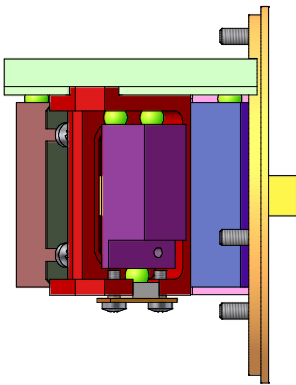
COMPLETE SPECTROMETER -
PLAN VIEW



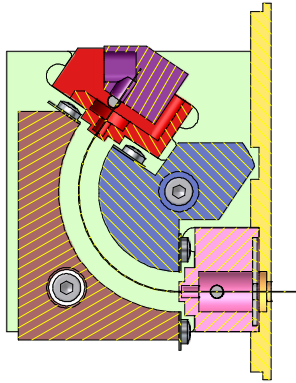
COMPLETE SPECTROMETER -
ISOMETRIC VIEW



BOTTOM ASSEMBLY -
FRONT VIEW

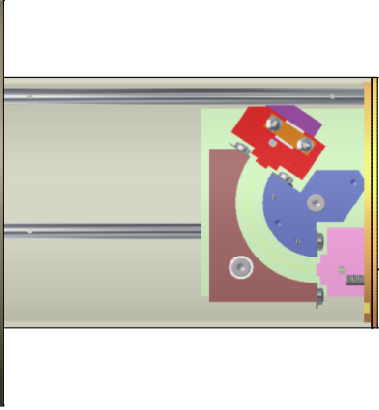


BOTTOM ASSEMBLY -
END VIEW



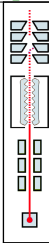
A-A (1.5 : 1)

BOTTOM ASSEMBLY -
FRONT SECTION VIEW



COMPLETE SPECTROMETER -
FRONT VIEW

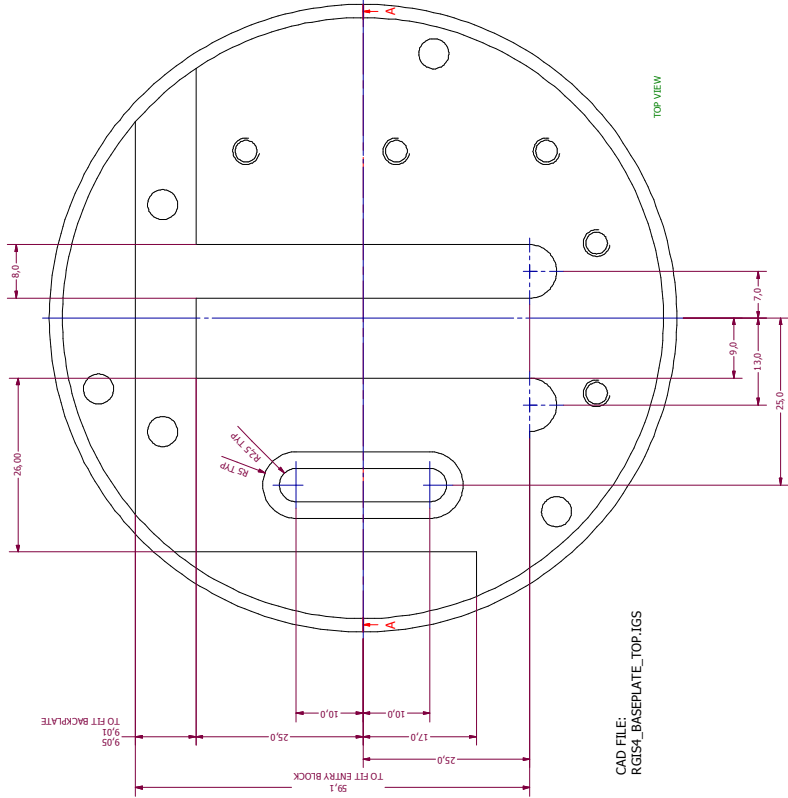
PARTS LIST			DESCRIPTION	
ITEM	QTY	PART NUMBER		
1	1	BasePlate		
2	1	BackPlate		
3	1	SRBlock		
4	1	SRBlock2		
5	1	SRBlock2		
6	1	InertBend		
7	1	OuterBend		



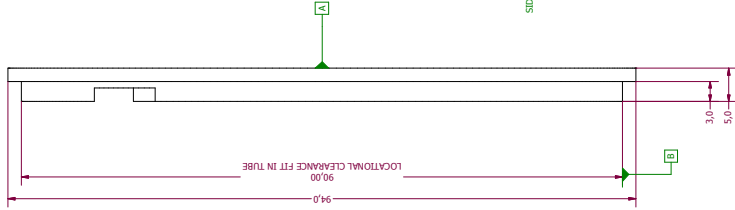
File: Residual Gas Ion Spectrometer		Projection: Third angle
Drawn by: P. Savage	Designed by: R. Dooling	Model file: RGS4.dwg
Checked by: N/A	Date: 7th December 2011	Drawing file: RGS4.dwg
Version number: 1	Project: Front End Test Stand	Project: Front End Test Stand
Manufactured by: I. Chis, HEP workshop	Material: N/A	Sheet number: 1 / 1
Remove all burrs	Number off: 1 complete assembly	Number off: 1 complete assembly
Scale: Do not scale	Drawing number: IC_HEP_PJS_FETS_XXXX	Drawing number: IC_HEP_PJS_FETS_XXXX
Notes: Design based on RGS3		
Contact: j.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268089		

Unless otherwise stated:	
Dimensional tolerances:	X ± 0.5 mm
	XX ± 0.2 mm
	XXX ± 0.1 mm
Angular tolerances:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	6.3 microns
Dimensions in mm	

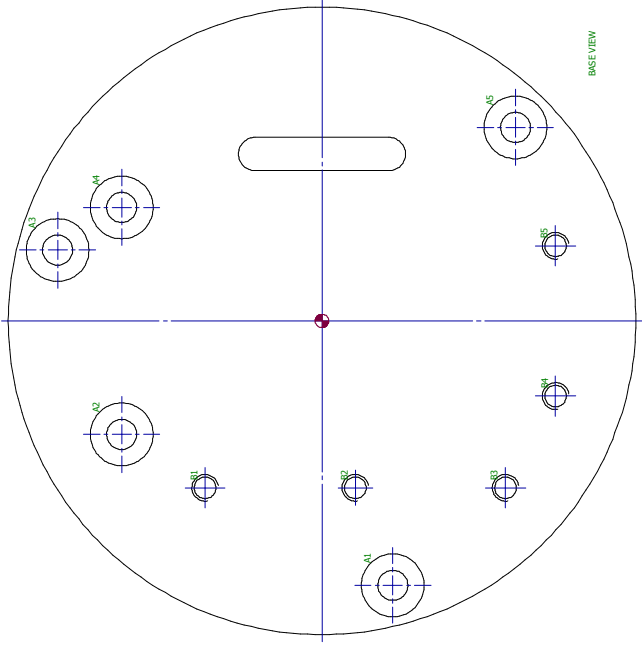
RESIDUAL GAS ION SPECTROMETER
- BASE PLATE



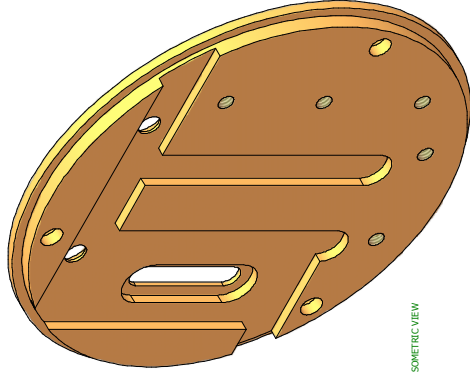
CAD FILE:
RGIS4_BASEPLATE_TOP.IGS



SIDE VIEW



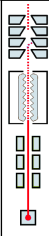
BASE VIEW



ISOMETRIC VIEW

POSITIONAL TOLERANCE FOR ALL HOLES

HOLES	XYMM	XYMM	DESCRIPTION
A1	-39.60	-10.61	Ø4.5 THRU
A2	-17.00	30.00	Ø4.5 THRU
A3	10.61	39.60	Ø4.5 THRU
A4	17.00	30.00	Ø4.5 THRU
A5	28.99	-8.99	Ø4.5 THRU
B1	-25.00	17.50	Ø4.5 THRU
B2	-25.00	-5.00	Ø4.5 THRU
B3	-11.25	-35.00	Ø4.5 THRU
B4	-11.25	-35.00	Ø4.5 THRU
B5	11.25	-35.00	Ø4.5 THRU



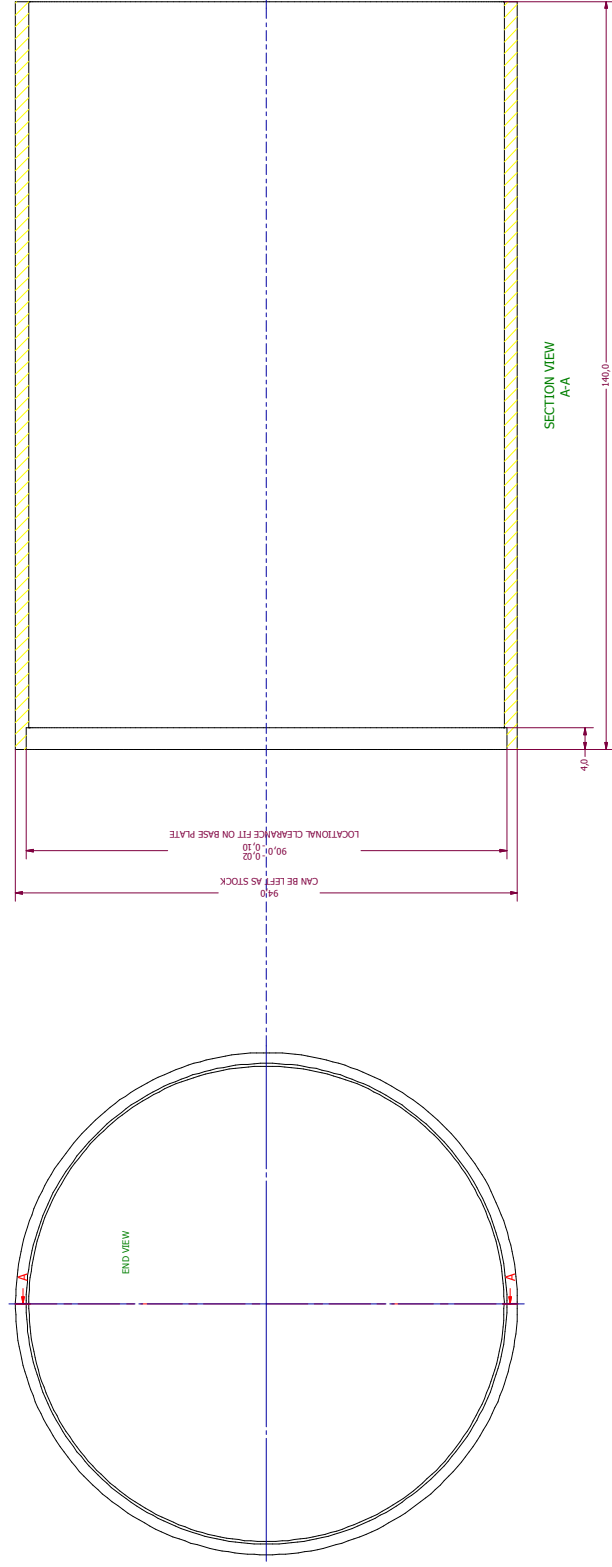
File:	RGIS4 - Base Plate
Drawn by:	P. Savage
Designed by:	R. Dooling
Checked by:	N/A
Date:	08 December 2011
Manufactured by:	L. Chis HEP workshop
Material:	Stainless Steel
Remove all burrs	Yes
Scale:	Do not scale
Notes:	Modification of design by R. Dooling

Projection:	Third angle
Model file:	RGIS4.dwg
Version number:	1
Sheet number:	2 of 1
Number off:	1
Drawing number:	IC_HEP_PJS_FETS_XXXX

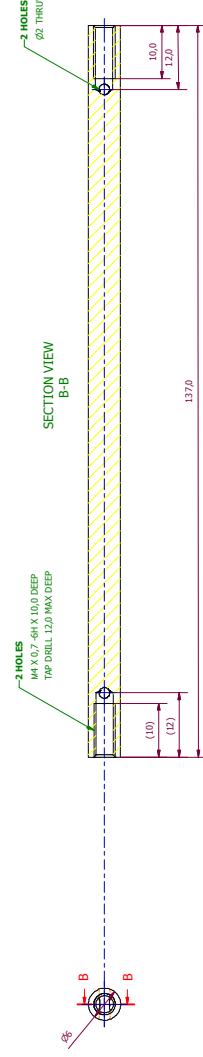
Unless otherwise stated:	
Dimensional tolerances:	X ± 0.5 mm XX ± 0.2 mm XXX ± 0.1 mm
Angular tolerances:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	6.3 microns
Dimensions in mm:	

MATERIAL: STAINLESS STEEL
OUTER DIMENSIONS: Ø94 X 5 THICK
NUMBER OFF: 1

POLISH INSIDE AND OUTSIDE SURFACES



MATERIAL: COPPER
3,75" O.D. (95,25), 3.5" I.D. (88,9) X 140 LONG
NUMBER OFF: 1

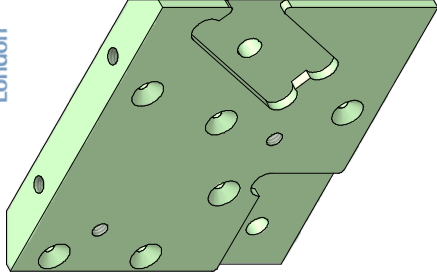
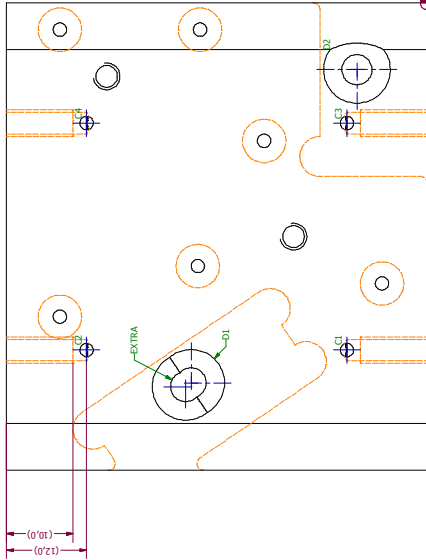
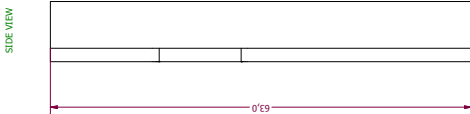
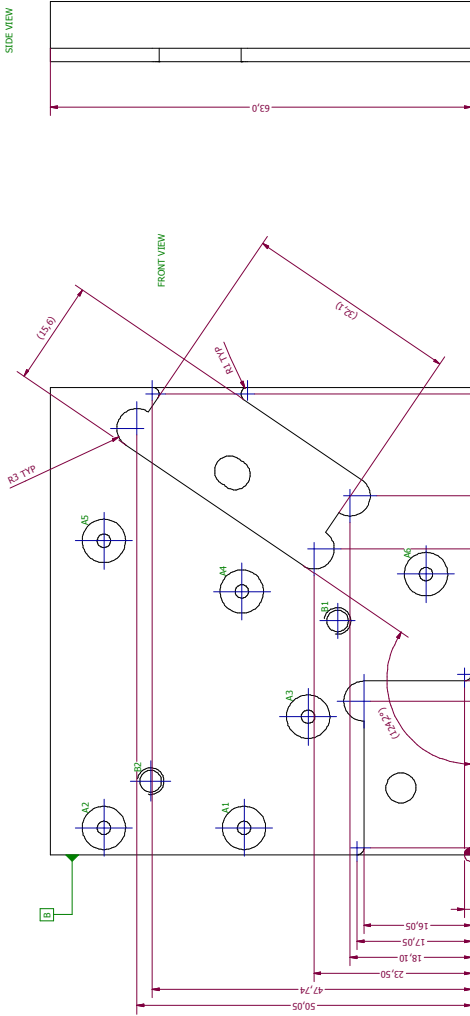
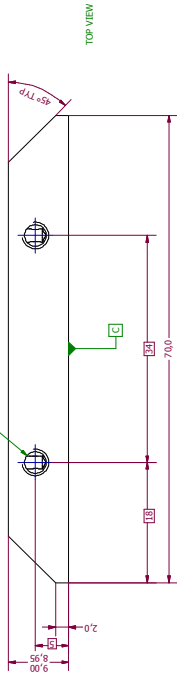


MATERIAL: STAINLESS STEEL
NUMBER OFF: 3

File:	RGIS4 - Tube & Posts				Unless otherwise stated: Dimensional tolerance: X ± 0.5 mm X,X ± 0.2 mm X,X,X ± 0.1 mm 4.0° 4.0/05 mm 4.0/05 mm 4.0/05 mm 4.0/05 mm
Drawn by:	P. Savage	Project:	Tube angle		
Designed by:	N/A	Model file:	RGIS4.tst		
Created by:	N/A	Drawing file:	RGIS4.dwg		
Checked by:	1 December 2011	Version number:	1		
Dates:	1 CAPE STEP workshop	Project:	Front End Test Stand		
Manufactured by:	1 CAPE STEP workshop	Sheet number:	3 / 11		
Material:	Copper / S.S. steel	Part number:	3 / 11		
Notes:	Remove all burrs	Part name:	Tube angle post		
	Do not scale	Drawing number:	TC-STEP-015-015-XXXX		
Contact:	p.savage@imperial.ac.uk (Work) 0207 599 7817 (Mobile) 07884 268558				

RESIDUAL GAS ION SPECTROMETER
- BACK PLATE

2 HOLES EACH END
M4 X 0.7 - 6H X 10.0 DEEP
TAP DRILL 12.0 MAX DEEP



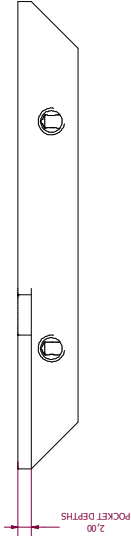
POSITIONAL TOLERANCE FOR ALL HOLES

HOLE	XDIM	YDIM	DESCRIPTION
A1	4.00	34.00	Ø2.0 THRU
A2	4.00	55.00	✓ Ø6.5 X 90.00°
A3	20.66	24.41	✓ Ø6.5 X 90.00°
A4	39.41	34.34	✓ Ø6.5 X 90.00°
A5	47.00	55.00	✓ Ø6.5 X 90.00°
A6	42.02	6.74	✓ Ø6.5 X 90.00°
B1	35.00	20.00	MM0.2 - 6H
B2	11.00	48.00	MM0.2 - 6H

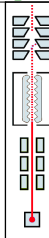
POSITIONAL TOLERANCE FOR ALL HOLES

HOLE	XDIM	YDIM	DESCRIPTION
C1	-52.00	12.00	Ø2.0 - 5.0 DEEP
C2	-52.00	51.00	Ø2.0 - 5.0 DEEP
C3	-18.00	12.00	Ø2.0 - 5.0 DEEP
C4	-18.00	51.00	Ø2.0 - 5.0 DEEP
D1	-56.91	35.34	✓ Ø4.5 - 8.0 DEEP
EXTRA	-57.47	36.16	✓ Ø4.5 - 8.0 DEEP
D2	-10.00	10.50	✓ Ø10.0 X 90.00°

CAD FILE:
RGIS4_BACKPLATE_FRONT.IGS



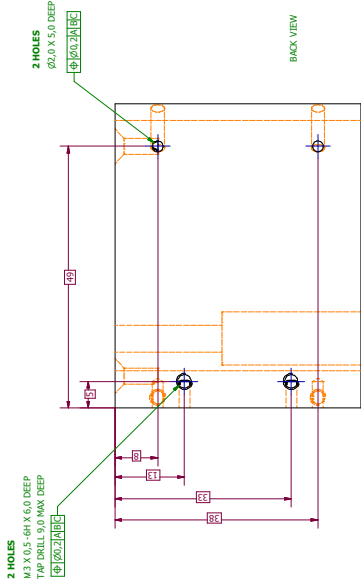
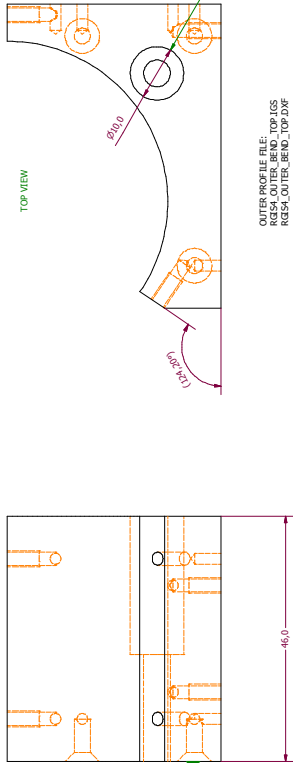
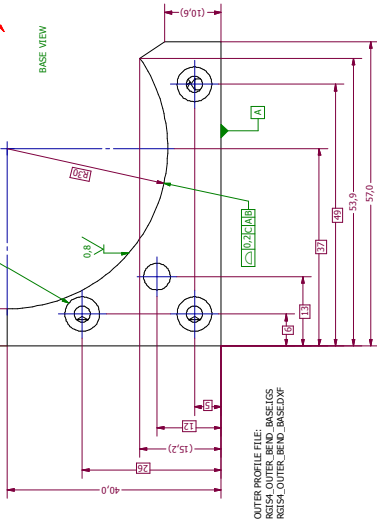
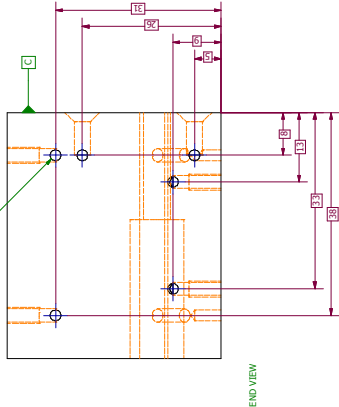
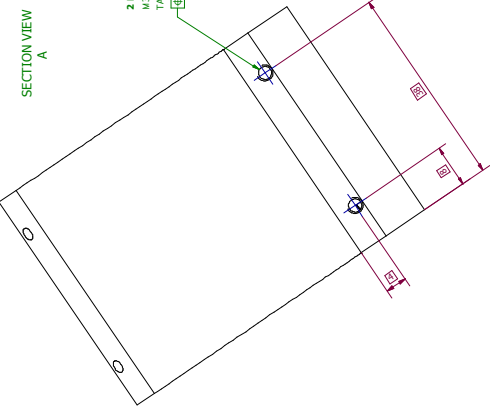
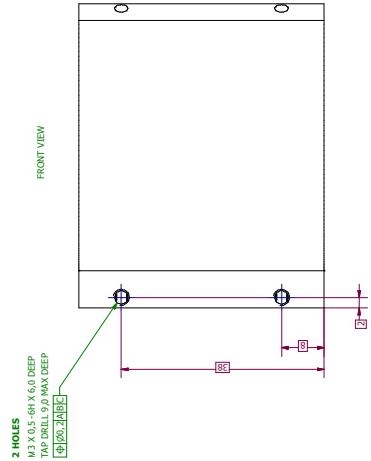
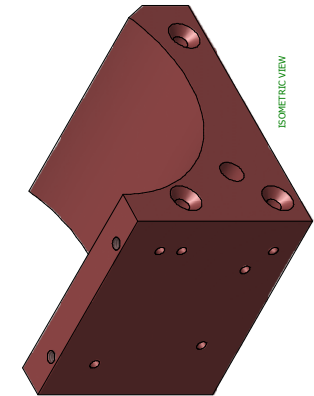
BASE VIEW



File:	RGIS4 - Back Plate
Drawn by:	P. Savage
Designed by:	R. Dooling
Checked by:	N/A
Date:	7th December 2011
Manufactured by:	I. Chis, HEP workshop
Material:	Stainless Steel
Remove all burrs	✓
Scale:	Do not scale
Notes:	Modification of design by R. Dooling
Contact:	pa.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 258939
Projection:	Third angle
Model file:	BackPlate.rpt
Drawing file:	RGIS4.dwg
Version number:	1
Project:	Front End Test Stand
Sheet number:	4 / 11
Number off:	1
Drawing number:	IC_HEP_PJS_FETS_XXXX
Unless otherwise stated:	
Dimensional tolerances:	X ± 0.5 mm XX ± 0.2 mm XXX ± 0.1 mm
Angular tolerances:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	La machine
Dimensions in mm:	□

MATERIAL: BRASS
OUTER DIMENSIONS: 74 X 63 X 9 THICK
NUMBER OFF: 1

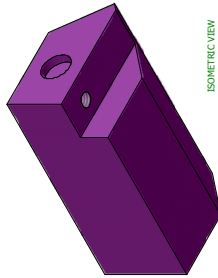
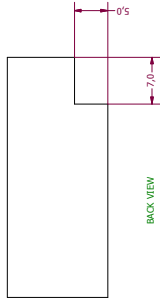
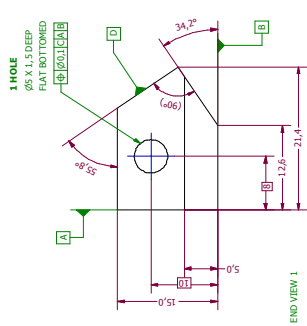
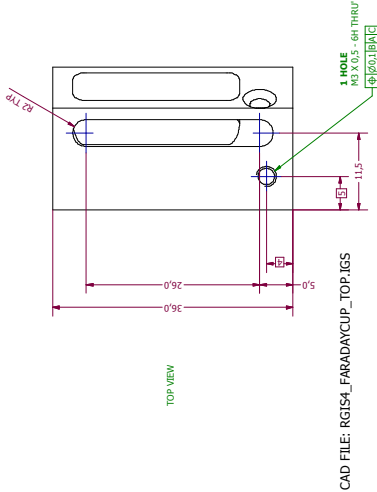
RESIDUAL GAS ION SPECTROMETER
- OUTER BEND



MATERIAL: STAINLESS STEEL
OUTER DIMENSIONS: 57 X 40 X 46 THICK
NUMBER OFF: 1

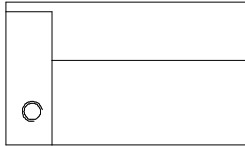
Title: RGIS4 - Outer Bend		Projection: Third angle
Drawn by: P. Savage	Model file: OuterBend.dwg	
Designed by: NA	Drawing file: RGIS4.dwg	
Date: 1st December 2011	Version number: 1	
Manufactured by: Imperial College	Project: Front End Test Stand	
Material: Stainless Steel	Sheet number: 6 / 11	
Remove all burrs	Number off: 1	
Scale: Do not scale	Drawing number: IC_HEP_PJS_FETS_XXXX	
Notes: Modification to RGIS3 by R. Drilling		
Contact: j.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268893		

Unless otherwise stated:	
Dimensional tolerances:	X ± 0.5 mm
	XX ± 0.2 mm
	XXX ± 0.1 mm
Angular tolerances:	40.5°
Hole centres:	± 0.05 mm
Surface finish:	6.3 microns
Dimensions in mm:	

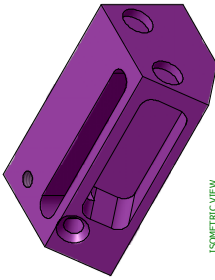
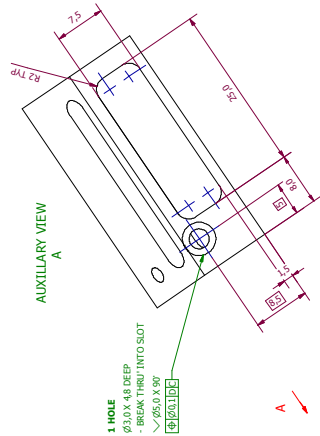


ISOMETRIC VIEW

BASE VIEW

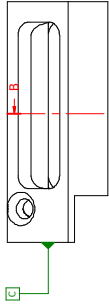
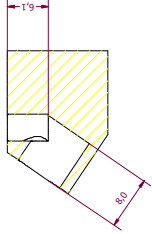


CAD FILE: RG1S4_FARADAYCUP_AUXILIARY.IGS

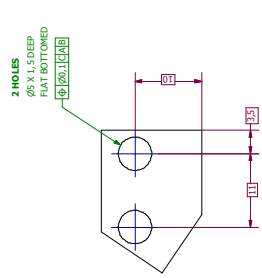


ISOMETRIC VIEW

SECTION VIEW B-B



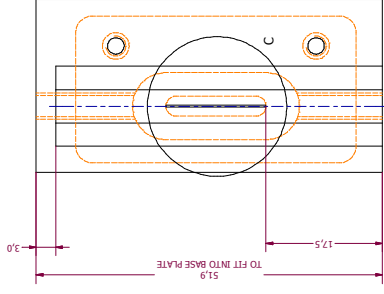
FRONT VIEW



CAD FILE: RG1S4_FARADAYCUP_END2.IGS

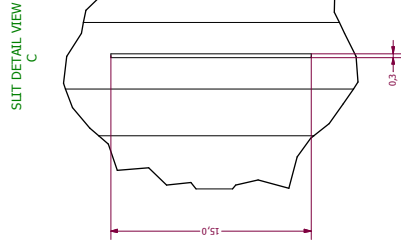
File:	RG1S4 - Faraday Cup
Drawn by:	P. Savage
Designed by:	P. Savage
Checked by:	NA
Date:	9th January 2012
Manufactured by:	I. Chis HEP workshop
Material:	Stainless Steel
Remove all burrs	
Scale:	Do not scale
Notes:	
Projection:	Third angle
Model file:	Faraday Cup.1st
Drawing file:	RG1S4.1dw
Version number:	1
Project:	Front End Test Stand
Sheet number:	7 / 11
Number off:	1
Drawing number:	IC_HEP_PJS_FETS_XXXX
Dimensions in mm	
Unless otherwise stated:	
Dimensional tolerances:	X ± 0.5 mm XX ± 0.2 mm XXX ± 0.1 mm
Angular tolerances:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	1.6 microns
Dimensions in mm	

MATERIAL: STAINLESS STEEL
OUTER DIMENSIONS: 36 X 21,4 X 15 THICK
NUMBER OFF: 1

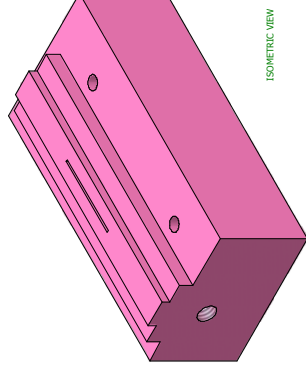


TOP VIEW

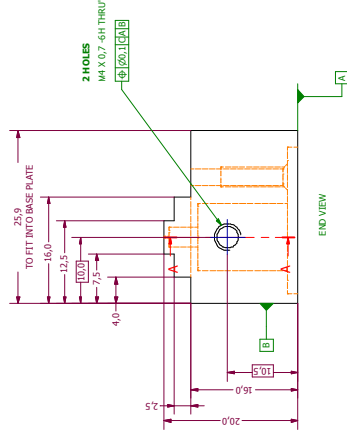
CAD FILE:
RGIS4_ENTRYBLOCK_TOP.IGS



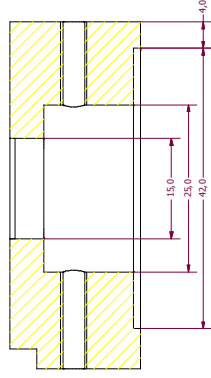
SLIT DETAIL VIEW
C



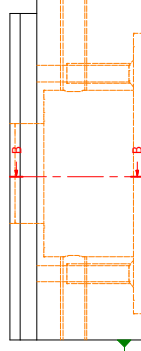
ISOMETRIC VIEW



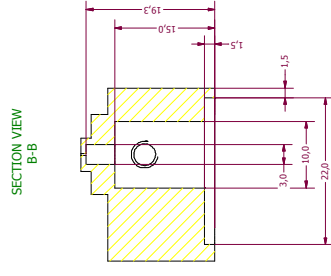
END VIEW



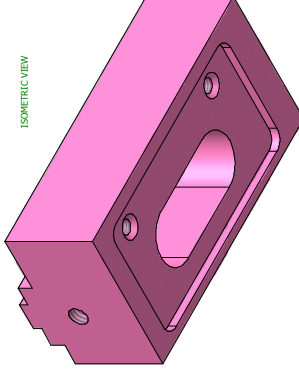
SECTION VIEW
A-A



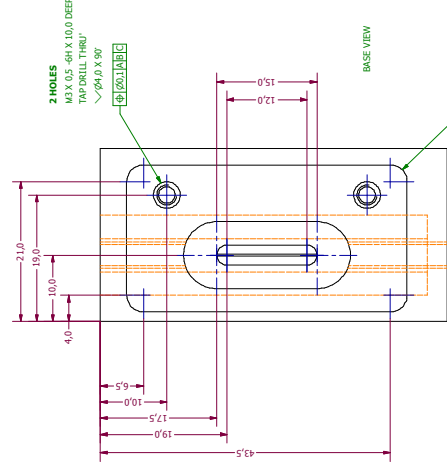
SIDE VIEW



SECTION VIEW
B-B



ISOMETRIC VIEW



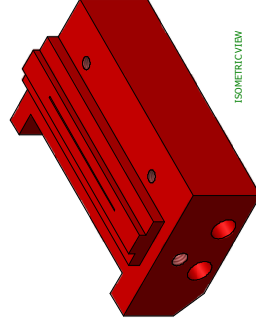
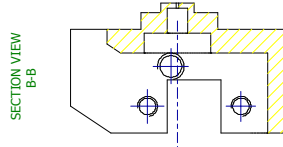
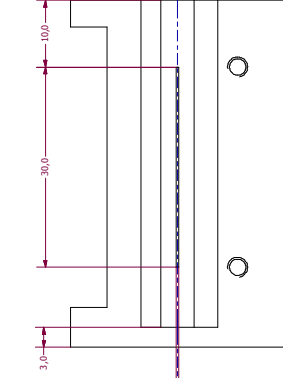
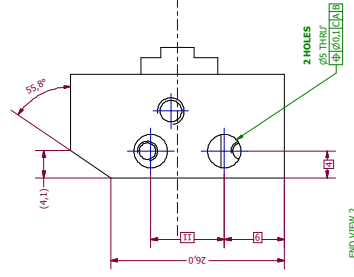
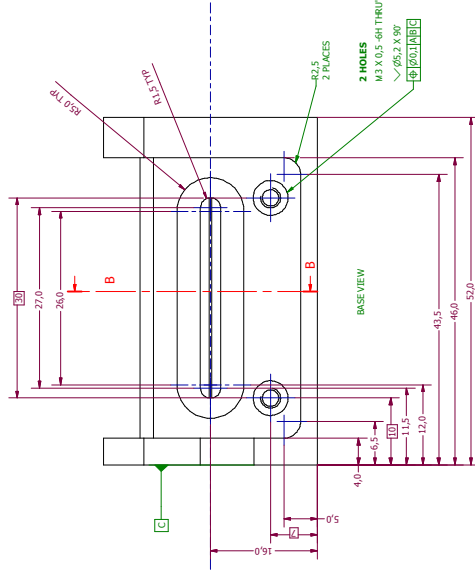
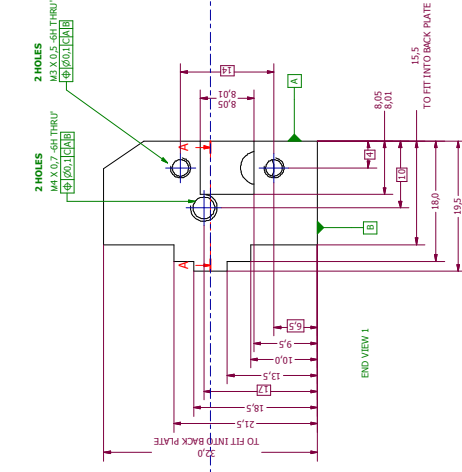
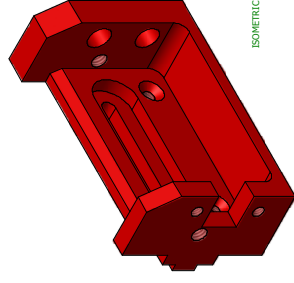
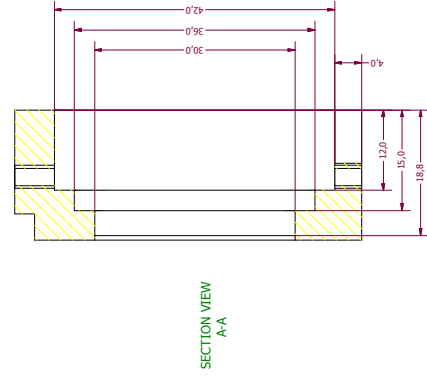
BASE VIEW

CAD FILE:
RGIS4 ENTRYBLOCK BASE.IGS

MATERIAL: STAINLESS STEEL
OUTER DIMENSIONS: 52 X 26 X 20 THICK
NUMBER OFF: 1

File:	
Drawn by:	P. Savage
Designed by:	R. Dooling
Checked by:	N/A
Date:	
Manufactured by:	L. Clark, HEP workshop
Material:	Stainless Steel
Remove all burrs	
Notes:	Do not scale Modification of design by R. Dooling
Contact:	cal@evanlincoln.co.uk (Work) 0207 594 7812 (Mobile) 07864 246858

RESIDUAL GAS ION SPECTROMETER - EXIT BLOCK



CAD FILE: RGIS4_EXITBLOCK_BASE.IGS

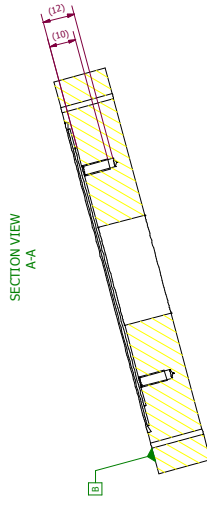
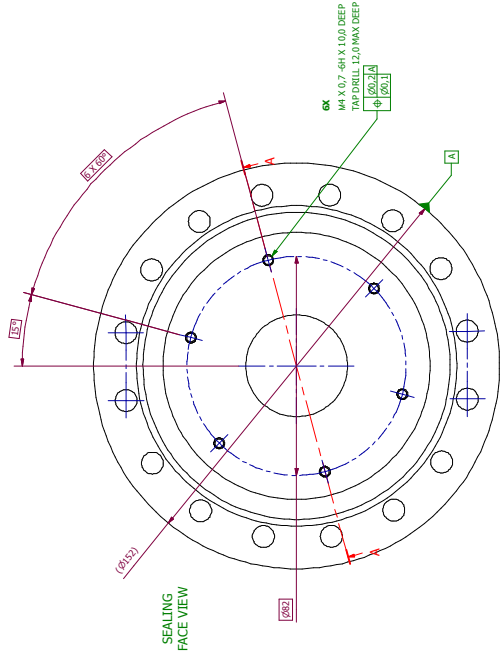
CAD FILE: RGIS4 EXITBLOCK END1.IGS

CAD FILE: RGIS4_EXITBLOCK_TOP.IGS

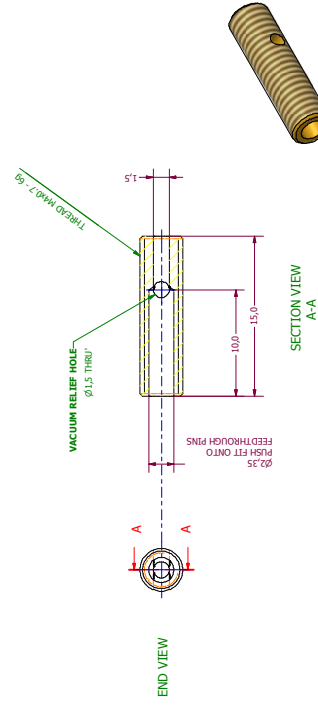
CAD FILE: RGIS4_EXITBLOCK_END2.IGS

File:			Unless otherwise stated: Dimensional tolerance: X X.X ± 0.2 mm X.XX ± 0.1 mm X.XXX ± 0.05 mm Hole centers: ± 0.05 mm ± 0.02 mm ± 0.01 mm ± 0.005 mm ± 0.002 mm ± 0.001 mm
Drawn by:	P. Savage	Projection:	Third angle
Designed by:	P. Savage	Model file:	SI-BLOCK.dwg
Created by:	N/A	Drawing file:	RG154.dwg
Dates:	9th January 2012	Version number:	1
Manufactured by:	1. CNC/REP workshop	Project:	Print End Test Stand
Material:	Stainless Steel	Sheet number:	9 / 11
Notes:	Remove all burrs	Sheet number:	9 / 11
	Do not scale	Drawing number:	CG-REP-PLS-PLS-XXXX
Notes:		Drawing number:	
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 781.7 (Mobile) 07884 286058		

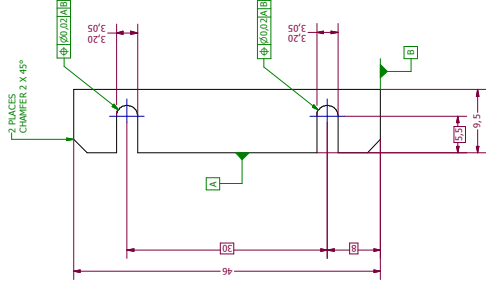
MATERIAL: STAINLESS STEEL
OUTER DIMENSIONS: 52 X 32 X 20 THICK
NUMBER OFF: 1



PART: MAIN FLANGE
MATERIAL: 304 STAINLESS STEEL
OUTER DIMENSIONS: Ø152 X 20 THICK
MODIFICATION TO: REDUCING FLANGE, PART No. RF600X275M
NUMBER OFF: 1



PART: FEEDTHROUGH PIN CONNECTOR
MATERIAL: BRASS
NUMBER OFF: 4



PLAN VIEW

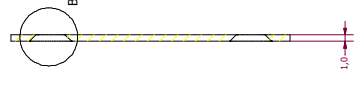


SIDE VIEW

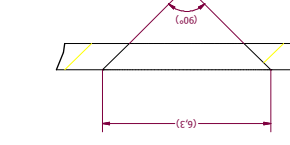


ISOMETRIC
VIEW

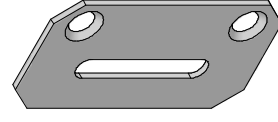
PART: FIELD ENHANCING PLATE
MATERIAL: METAL * DISCUSS WITH AMOS
OUTER DIMENSIONS: 0,5 SHEET
NUMBER OFF: 4



SECTION VIEW
A-A



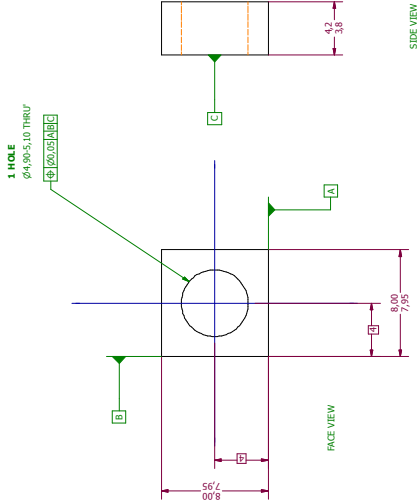
DETAIL VIEW
D



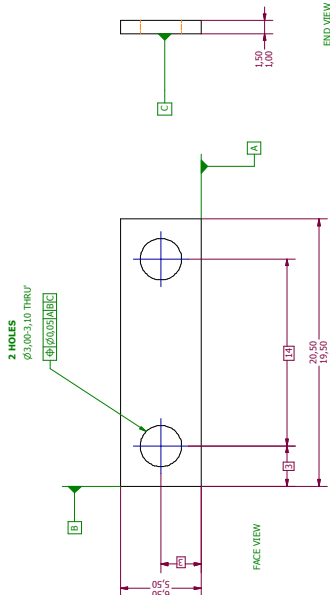
ISOMETRIC
VIEW

FBI01		RGS14 - Bits 'n' Bobs		Unless otherwise stated: Dimensional tolerance: X X.X X.XX 4.0/5 0.05 mm 0.05 mm 1.6 microns □	
Drawn by:	P. Savage	Projection:	Third angle		
Drawn by:	P. Savage / R. Dorrling	Model file:	MainFrame.plt		
Created by:	N/A	Drawing file:	RGS14.dwg		
Date:	2nd december 2011	Newton number:	1		
Manufactured by:	Zinc Cast, HEP workshop	Part Test Stand			
Metric scale:	Scaled per part	Units:	mm / inch		
Remove all units	Nope	Number of P's	Saved per part		
Scale:	Do not scale	Drawing numbers:	IC: HEIP_PJTS_XXXX		
Notes:					
Contact:	p.savage@imperial.ac.uk 0207 594 7817 (Mobile) 07864 260858				

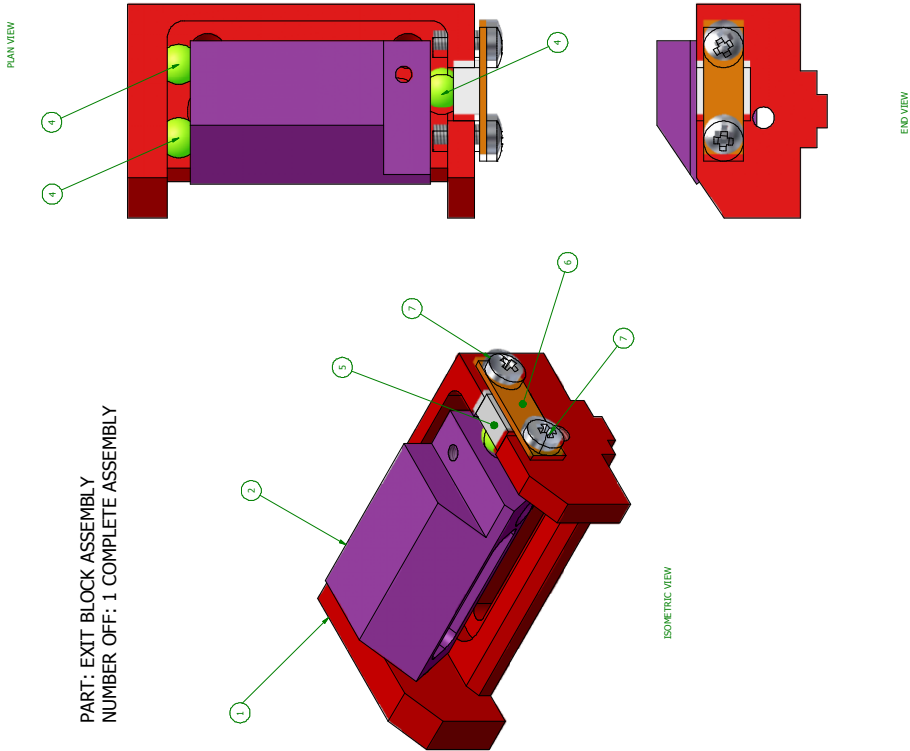
RESIDUAL GAS ION SPECTROMETER
- EXIT BLOCK ANCILLARIES



PART: EXIT BLOCK BALL HOLDER
MATERIAL: 304 STAINLESS STEEL
NUMBER OFF: 1



PART: EXIT BLOCK BALL HOLDER RETAINING PLATE
MATERIAL: 304 STAINLESS STEEL
NUMBER OFF: 1



PART: EXIT BLOCK ASSEMBLY
NUMBER OFF: 1 COMPLETE ASSEMBLY

ITEM	QTY	PARTS LIST	DESCRIPTION
1	1	SHROCK2	
2	1	ParadayCup	
3	1	SHROCK2	
4	1	SHROCK2	
5	1	SHROCK2	
6	1	SHROCK2	
7	2	DN7385A R338 A4	

File: **RGIS4 - Exit Block Ancillaries**

Drawn by:	P. Savage	Projection:	Third angle
Designed by:	P. Savage	Model file:	SHROCK2, Ballholder.rvt
Checked by:	N/A	Drawing file:	RGIS4.dwg
Date:	4th June 2012	Version number:	1
Manufactured by:	I. Chis, HEP workshop	Project:	Front End Test Stand
Material:	Stainless Steel	Sheet number:	11 / 11
Remove all burrs		Number off:	1 per part
Scale:	Do not scale	Drawing number:	IC_HEP_PJS_FETS_XXXX
Notes:			

Unless otherwise stated:
Dimensional tolerances: X ± 0.5 mm
 XX ± 0.2 mm
 XXX ± 0.1 mm
Angular tolerances: ± 0.5°
Hole centres: ± 0.05 mm
Surface finish: L6 max
Dimensions in mm

Drawings@imperial.ac.uk (Rack) 0207 594 7817 (Mobile) 07884 268093