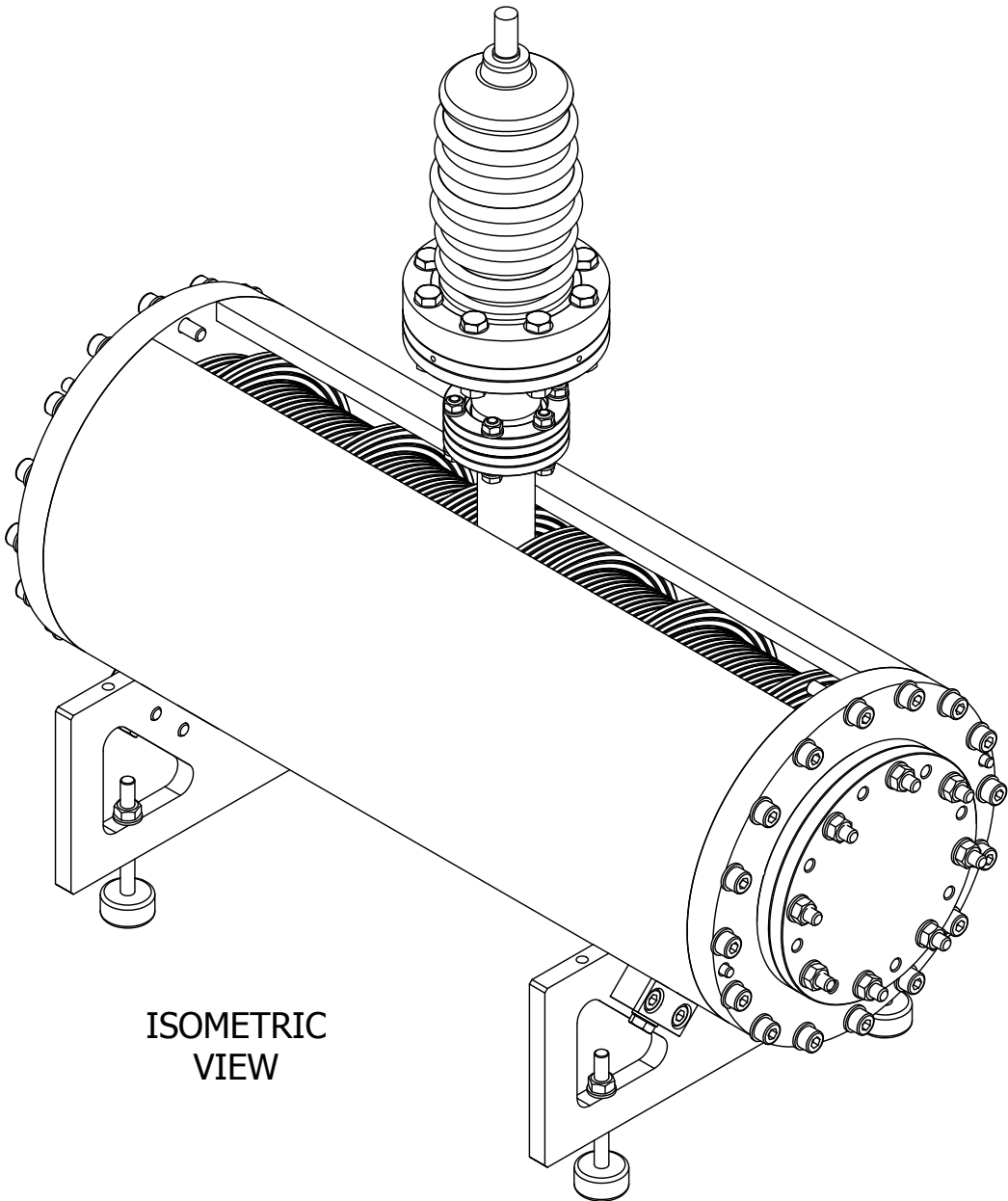
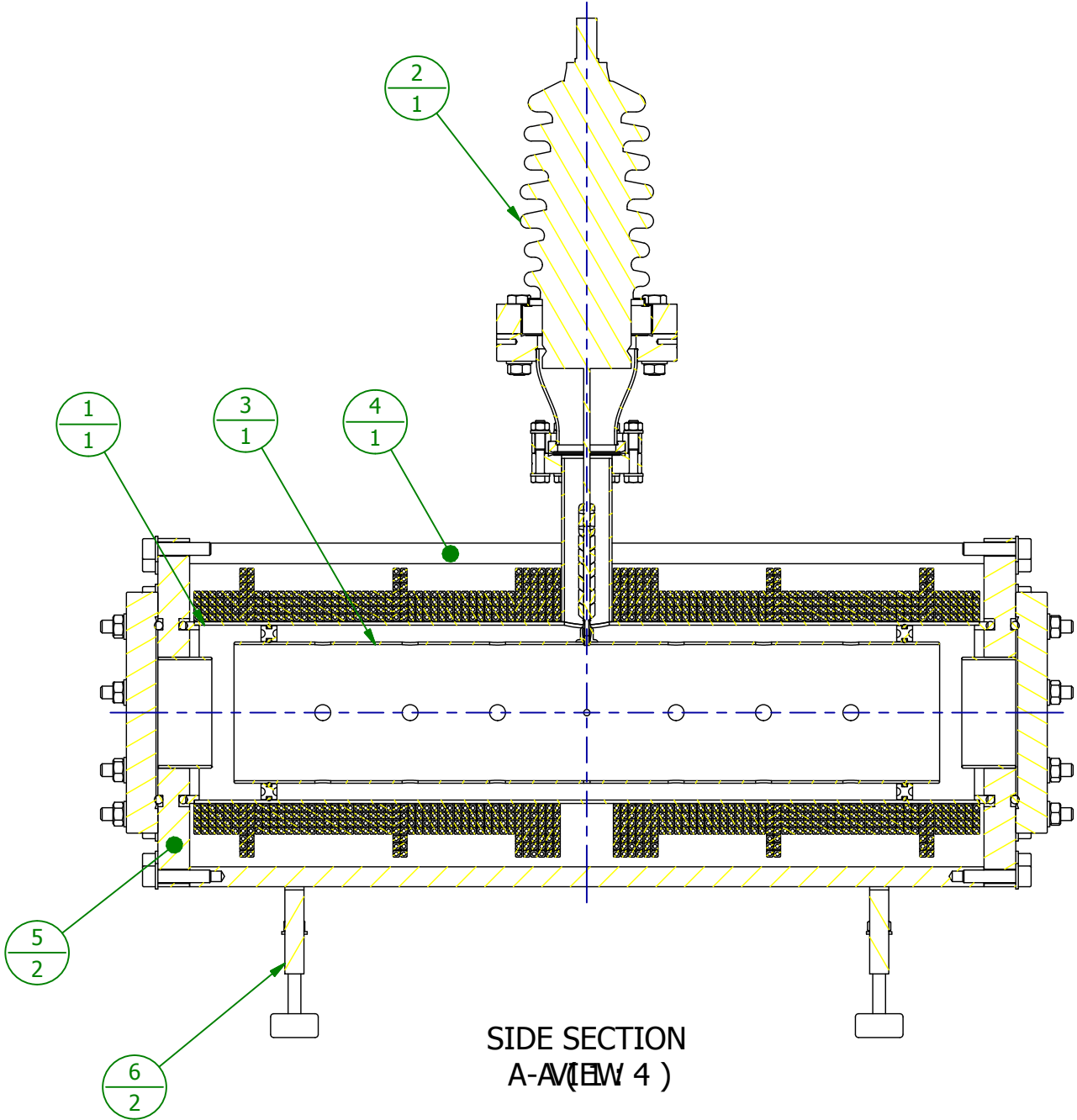
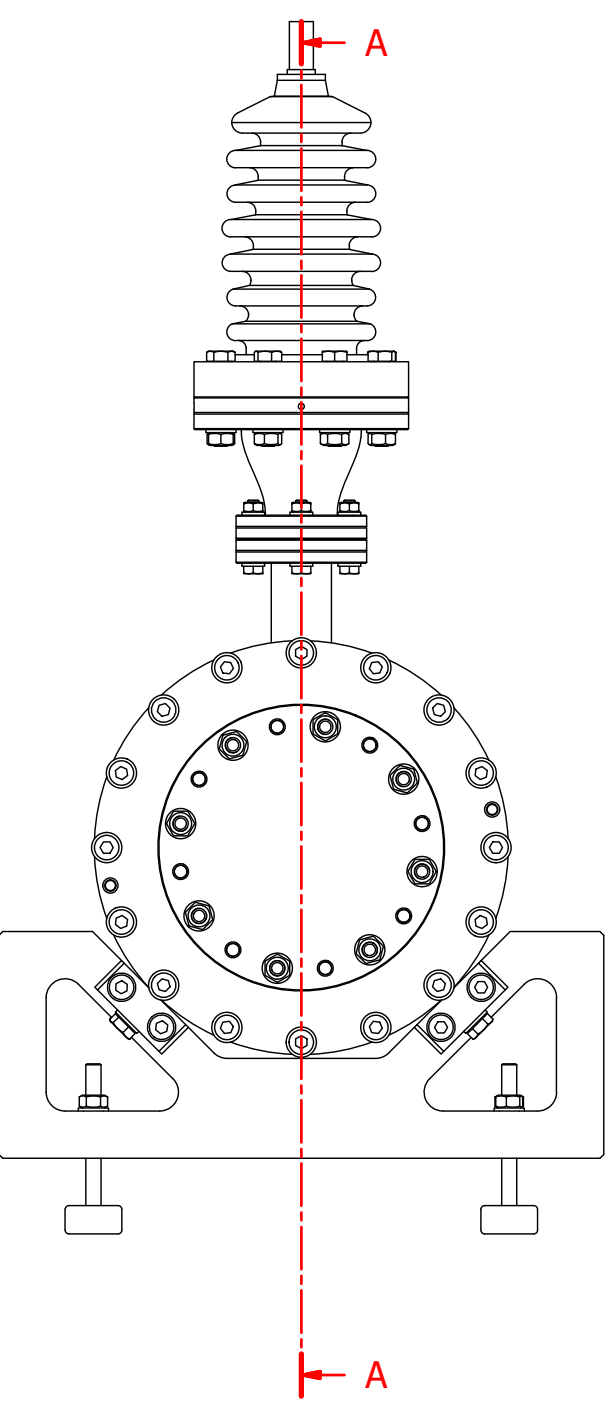
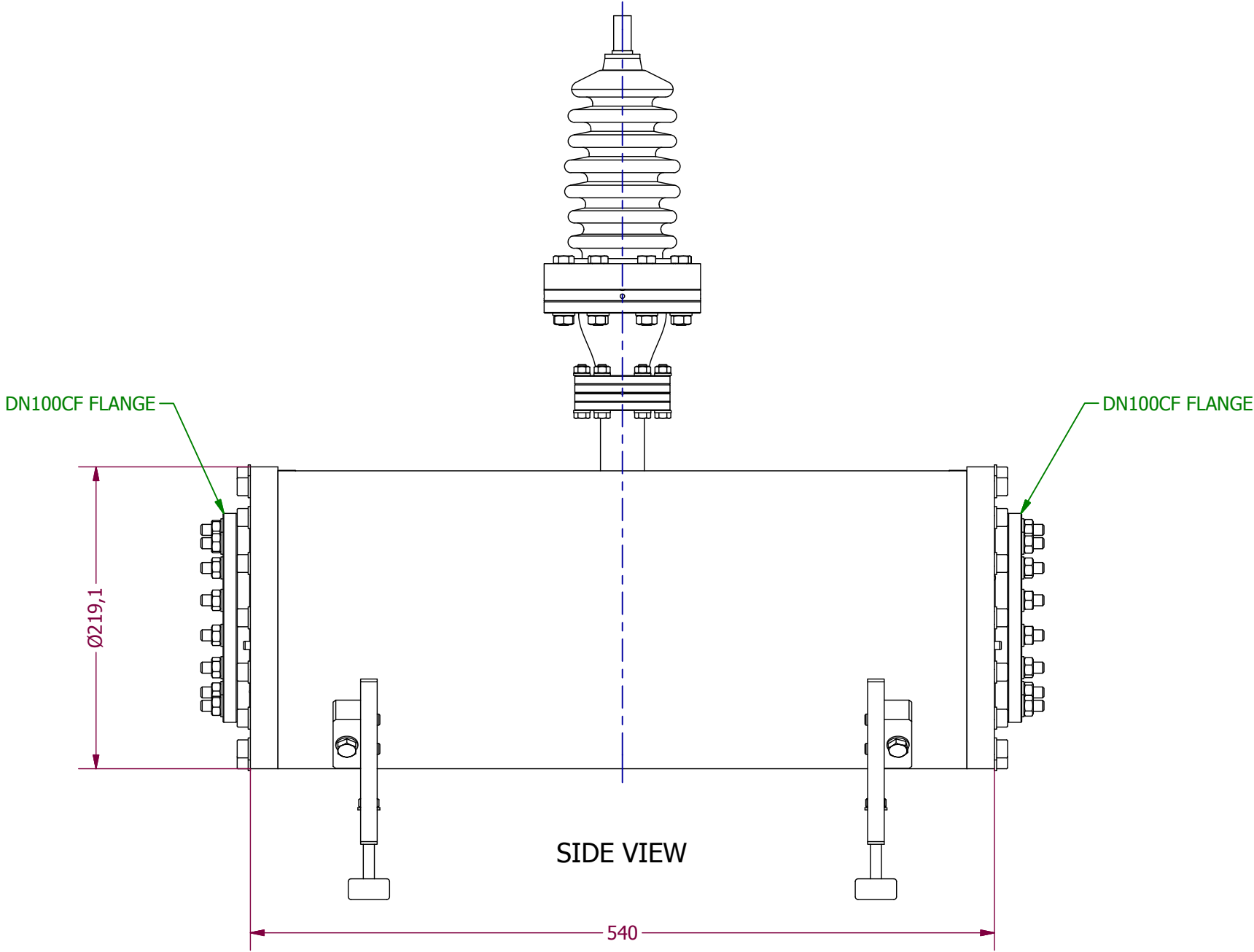


PS-FETS-000150

ITEM No		DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1		PS-FETS-000151	VACUUM TUBE ASSEMBLY	1	
2		PS-FETS-000159	HV FEEDTHROUGH ASSEMBLY	1	
3		PS-FETS-000165	CENTRAL ELECTRODE ASSEMBLY	1	
4		PS-FETS-000158	OUTER TUBE	1	STEEL GRADE S355J2H
5		PS-FETS-000162	END FLANGE ASSEMBLY	2	
6		PS-FETS-000155	SUPPORT BRACKET ASSEMBLY	2	



Title: GABOR LENS	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GaborLens.iam
Checked by: N/A	Drawing file: GaborLens.idw
Date: 5TH MARCH 2015	Version number: 1
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: -	Sheet number: 1 / 28
Remove all burrs	Number off: 1 COMPLETE ASSEMBLY
Scale: DO NOT SCALE	Drawing number: PS-FETS-000150
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:	
Dimensional tolerance:	X ± 0.5 mm
	X.X ± 0.3 mm
	X.XX ± 0.1 mm
Angular tolerance:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	1.6 microns
Dimensions in mm	□

PS-FETS-000151

ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	PS-FETS-000152	VACUUM TUBE	1	STAINLESS STEEL
2	PS-FETS-000153	VACUUM TUBE RISER	1	STAINLESS STEEL
3	PS-FETS-000154	VACUUM TUBE END RING	2	STAINLESS STEEL
4	MODIFIED STANDARD PART	DN40CF FLANGE	1	STAINLESS STEEL

END VIEW

END RING WELD DETAIL C (2 : 1)

DN40CF FLANGE WELD DETAIL B (1 : 1)

ISOMETRIC VIEW

SIDE SECTION VIEW A-A (1 : 2)

NEEDS TOLERANCING AS A COMPLETED WELDED ASSEMBLY OTHERWISE TOLERANCE STACK-UP IS TOO GREAT

NEED TO HIGHLIGHT VACUUM SURFACES AND SURFACE FINISH

NOTES:

- 1) LEAK RATE NOT TO EXCEED 1×10^{-8} mbar.l/s
- 2) WEIGHT = 3.5kg

Title: VACUUM TUBE ASSEMBLY	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GL_VacTube.iam
Checked by: N/A	Drawing file: GaborLens.idw
Date: 17 FEB 2015	Version number: 1
Manufactured by: N.T.E.	Project: GABOR LENS
Material: STAINLESS STEEL	Sheet number: 2 / 28
Remove all burrs	Number off: 1 COMPLETE ASSEMBLY
Scale: DO NOT SCALE	Drawing number: PS-FETS-000151
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:

Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm

Angular tolerance: ± 0.5°

Hole centres: ± 0.05 mm

Surface finish: 1.6 microns

Dimensions in mm □

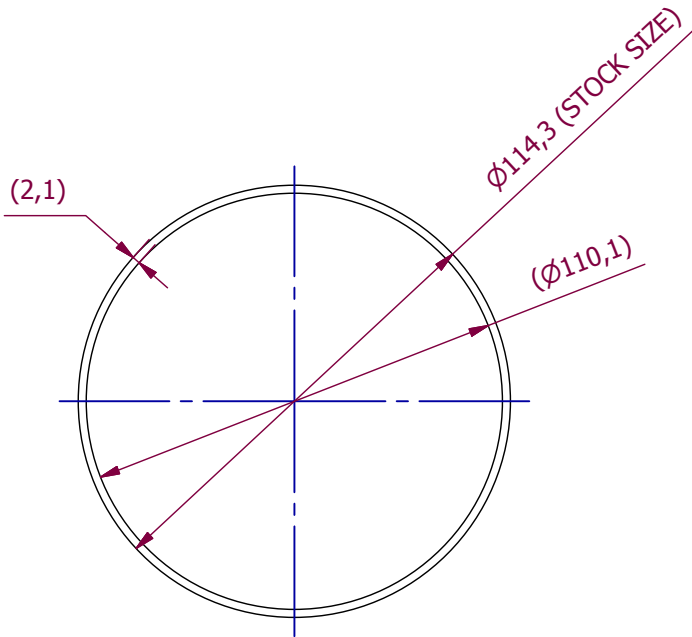
Imperial College London

Title:		VACUUM TUBE ASSEMBLY	
Drawn by:	P. SAVAGE	Projection:	THIRD ANGLE
Designed by:	P. SAVAGE	Model file:	GL_VacTube.iam
Checked by:	N/A	Drawing file:	GaborLens.idw
Date:	17 FEB 2015	Version number:	1
Manufactured by:	N.T.E.	Project:	GABOR LENS
Material:	STAINLESS STEEL	Sheet number:	2 / 28
Remove all burrs		Number off:	1 COMPLETE ASSEMBLY
Scale:	DO NOT SCALE	Drawing number:	PS-FETS-000151
Sheet size:	A2		
Notes:	-		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058		

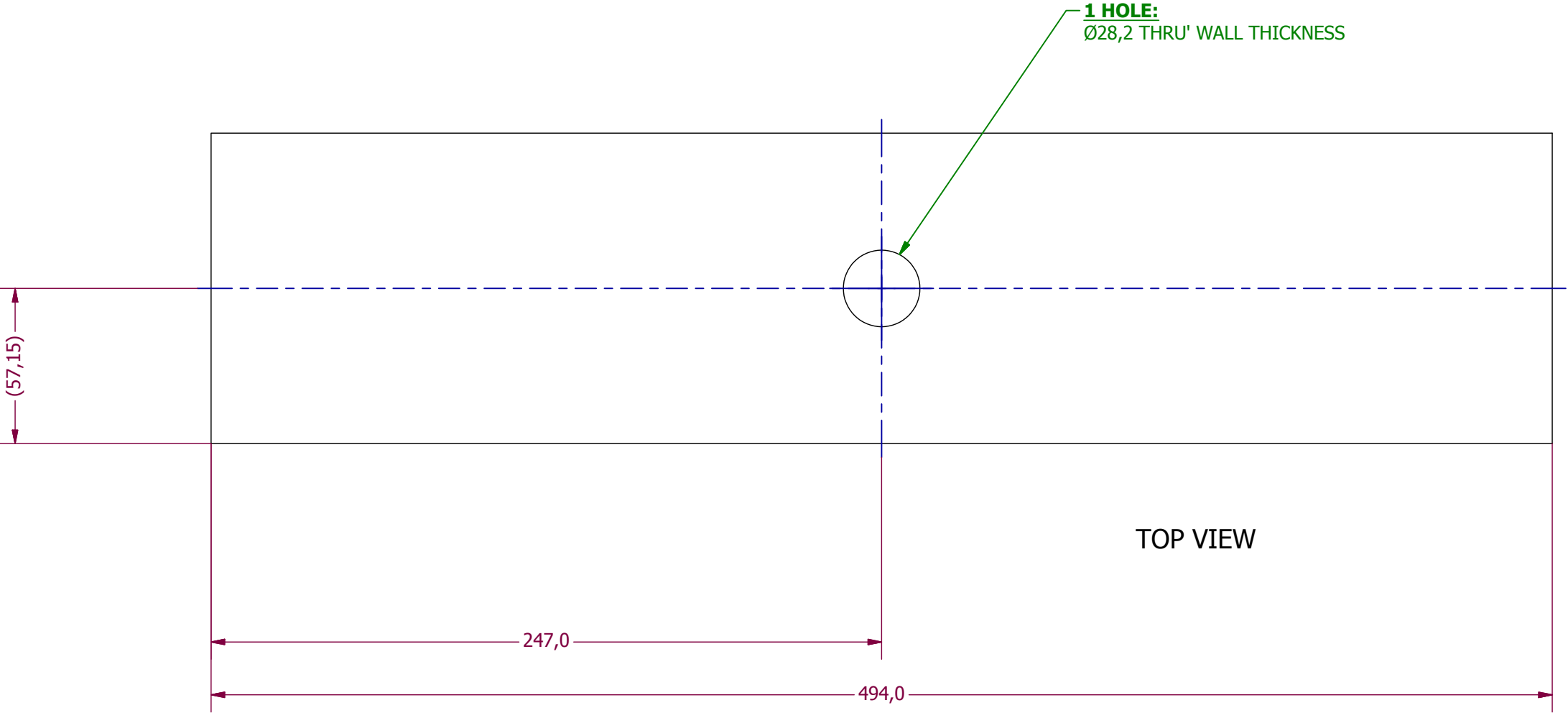
The image shows a technical drawing of a mechanical part. On the left, there is a circular feature with a red dot in the center, representing a hole. To its right, there are three rectangular features arranged in a row. Further right, there is a larger rectangular feature with a wavy, serrated top surface. To the right of this, there are three more rectangular features arranged in a row. A red line with arrows at both ends passes through the center of the circular feature and the wavy feature, indicating a dimension line. The entire drawing is enclosed in a black rectangular border.

Unless otherwise stated:

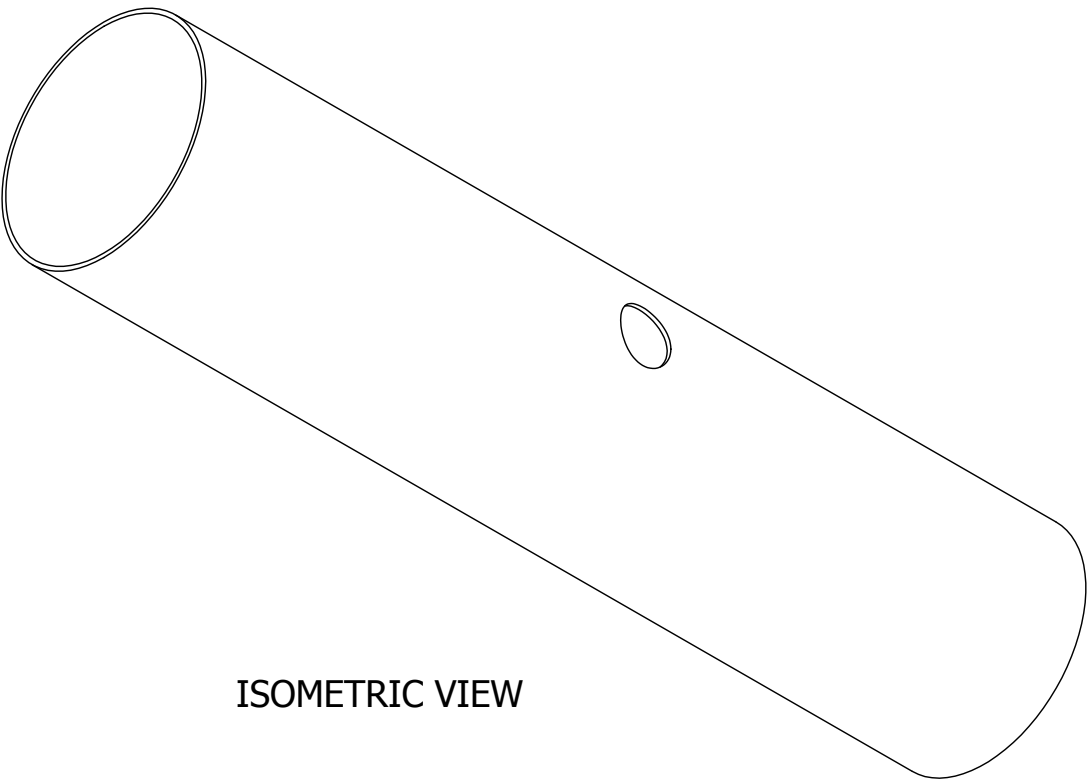
Dimensional tolerance:	X	$\pm 0.5 \text{ mm}$
	X.X	$\pm 0.3 \text{ mm}$
	X.XX	$\pm 0.1 \text{ mm}$
Angular tolerance:		$\pm 0.5^\circ$
Hole centres:		$\pm 0.05 \text{ mm}$
Surface finish:		1.6 microns
Dimensions in mm		<input type="checkbox"/>



END VIEW



TOP VIEW

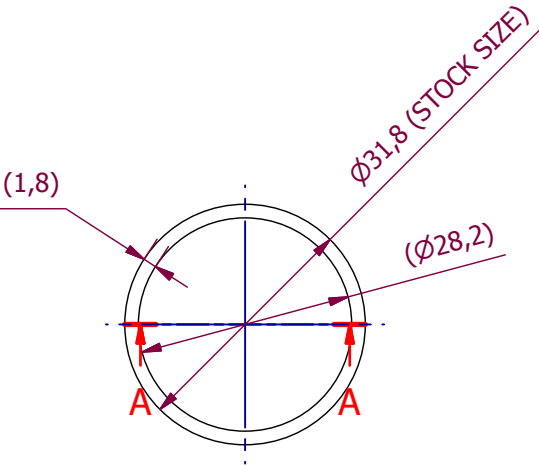


ISOMETRIC VIEW

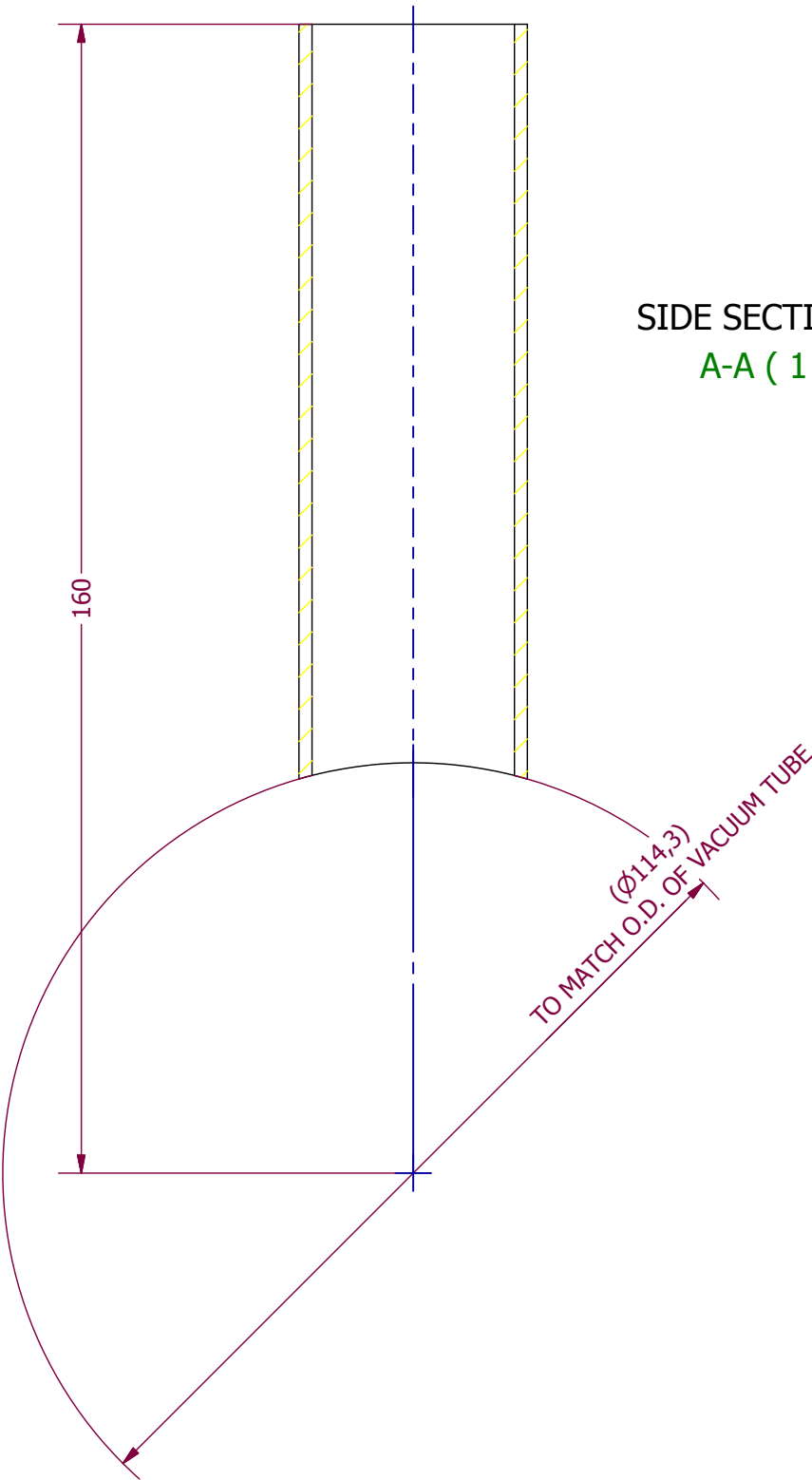
Title: VACUUM TUBE	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GL_VacTube.ipt
Checked by: N/A	Drawing file: GaborLens.idw
Date: 17 FEB 2015	Version number: 1
Manufactured by: N.T.E.	Project: GABOR LENS
Material: STAINLESS STEEL	Sheet number: 3 / 28
Remove all burrs	Number off: -
Scale: DO NOT SCALE	Drawing number: PS-FETS-000152
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk	(Work) 0207 594 7817 (Mobile) 07884 268058

Unless otherwise stated:

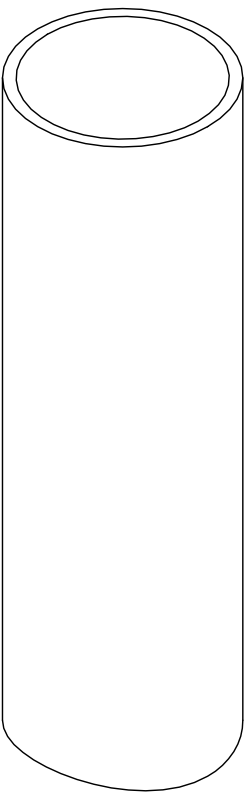
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		$\pm 0.5^\circ$
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		\square



END VIEW



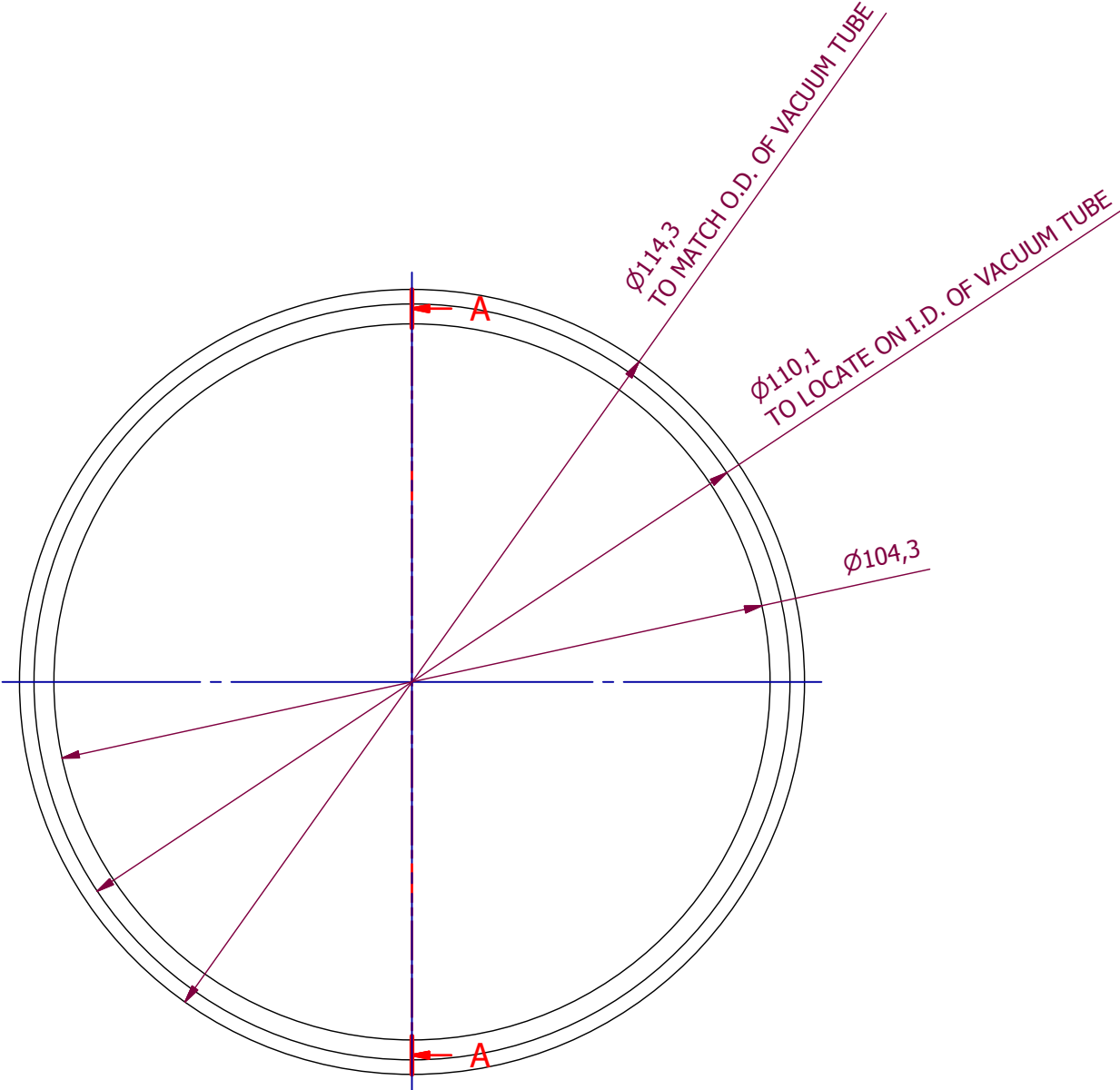
SIDE SECTION VIEW
A-A (1 : 1)



ISOMETRIC VIEW

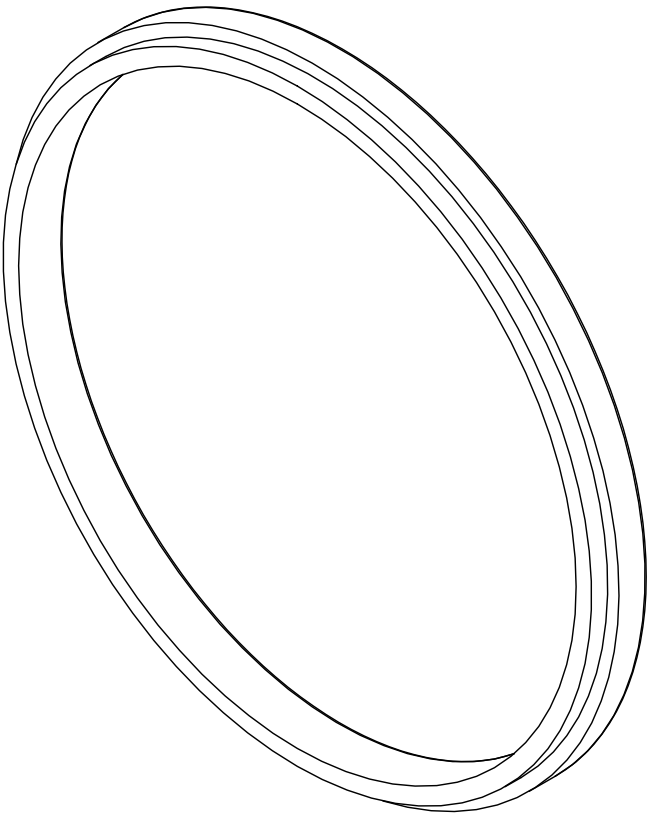
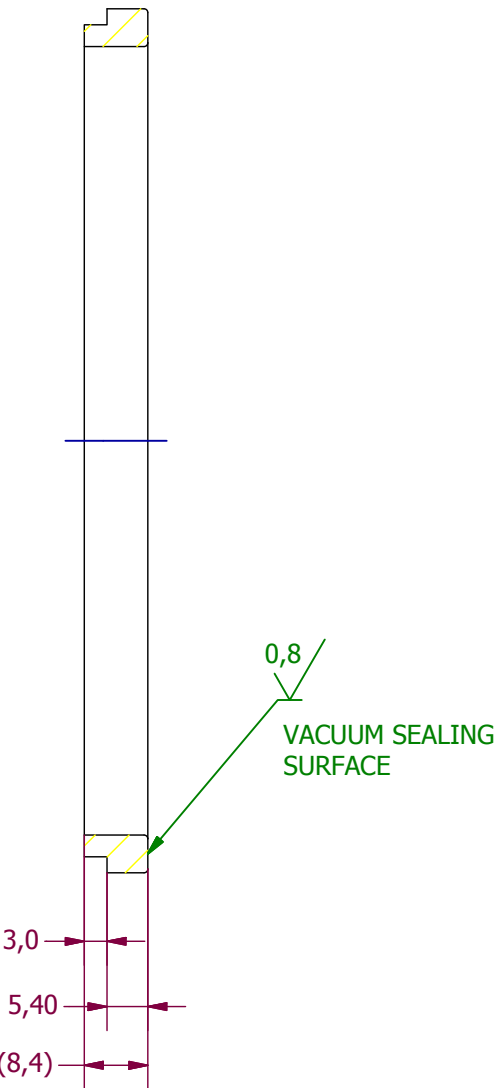
Title: VACUUM TUBE RISER		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: Riser_Tube.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	17 FEB 2015	Version number: 1
Manufactured by:	N.T.E.	Project: GABOR LENS
Material:	STAINLESS STEEL	Sheet number: 4 / 28
Remove all burrs		Number off: -
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000153
Sheet size:	A2	
Notes: -		
Contact:	p.savage@imperial.ac.uk	(Work) 0207 594 7817 (Mobile) 07884 268058

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		$\pm 0.5^\circ$
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		<input type="checkbox"/>



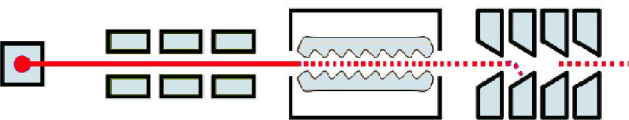
PLAN VIEW

SIDE SECTION VIEW
A-A (1 : 1)



ISOMETRIC VIEW

Title: VACUUM TUBE END RING		
Drawn by: P. SAVAGE	Projection: THIRD ANGLE	
Designed by: P. SAVAGE	Model file: GL_VacTube_End_Ring.ipt	
Checked by: N/A	Drawing file: GaborLens.idw	
Date: 17 FEB 2015	Version number: 1	
Manufactured by: N.T.E.	Project: GABOR LENS	
Material: STAINLESS STEEL	Sheet number: 5 / 28	
Remove all burrs	Number off: -	
Scale: DO NOT SCALE	Drawing number: PS-FETS-000154	
Sheet size: A2		
Notes: -		
Contact: p.savage@imperial.ac.uk	(Work) 0207 594 7817	(Mobile) 07884 268058



Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		$\pm 0.5^\circ$
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		\square

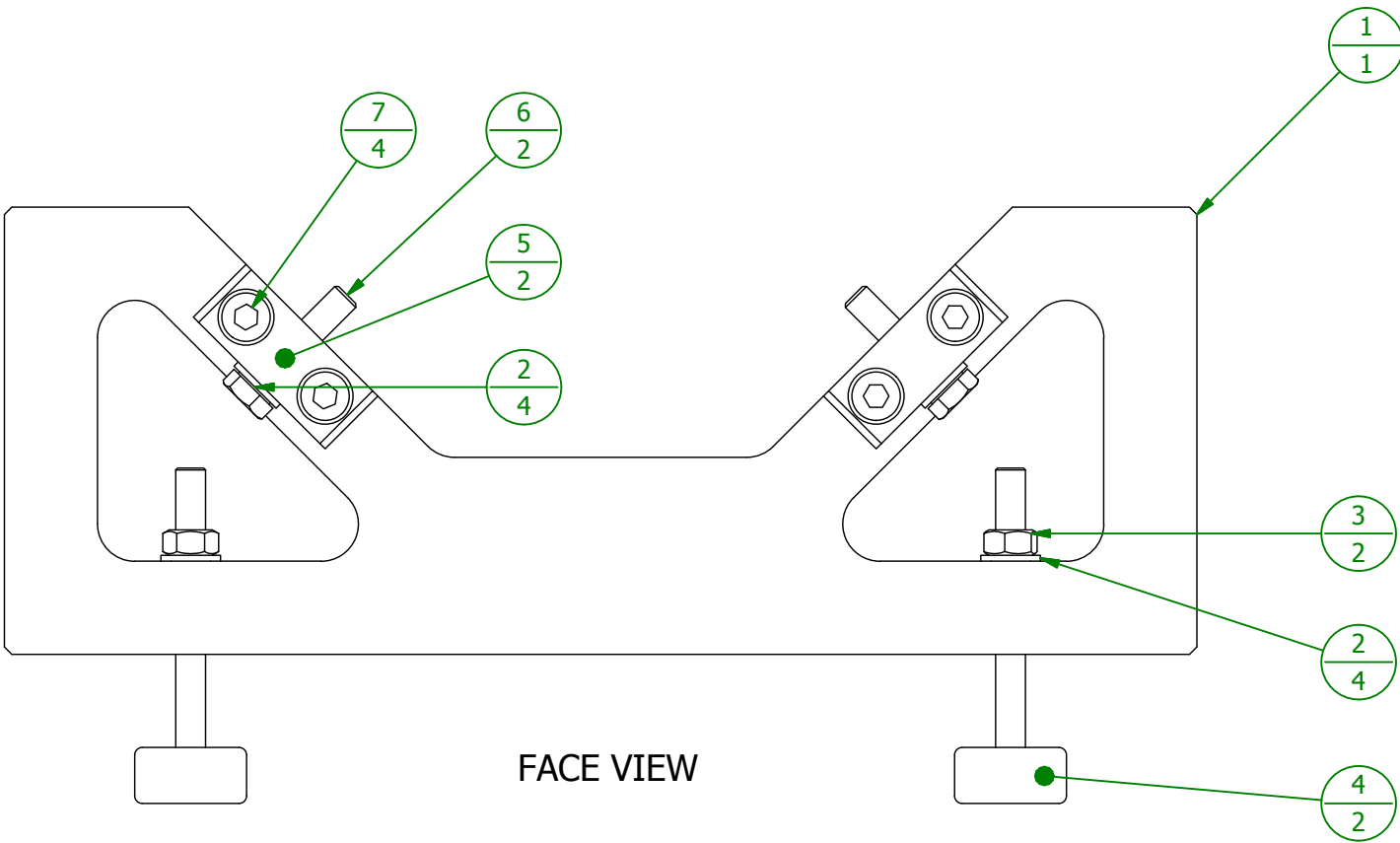
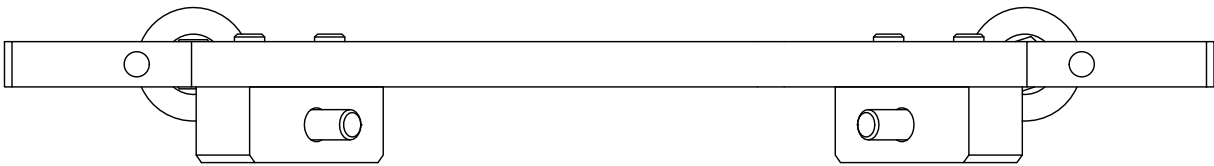
PS-FETS-000155

(PREVIOUSLY PS-FETS-000150)

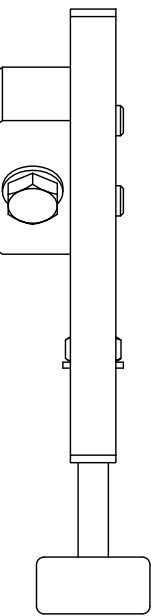
ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	PS-FETS-000156	SUPPORT BRACKET	1	12mm THICK 5080 CAST ALUMINIUM TOOLING PLATE
2	RS 797-6068	M8 WASHER	4	TO BE ORDERED IF NOT IN STOCK
3	RS 530-769	M8 NUT	2	TO BE ORDERED IF NOT IN STOCK
4	RS 302-3292	FOOT	2	TO BE ORDERED IF NOT IN STOCK
5	PS-FETS-000157	CLAMPING BLOCK	2	ALUMINIUM ALLOY
6	RS 508-0900	M8 X 35 HEX HEAD BOLT	2	TO BE ORDERED IF NOT IN STOCK
7	RS 281-164	M8 X 25 CAP HEAD SCREW	4	TO BE ORDERED IF NOT IN STOCK

QUANTITIES STATED ARE PER ASSEMBLY

TOP VIEW

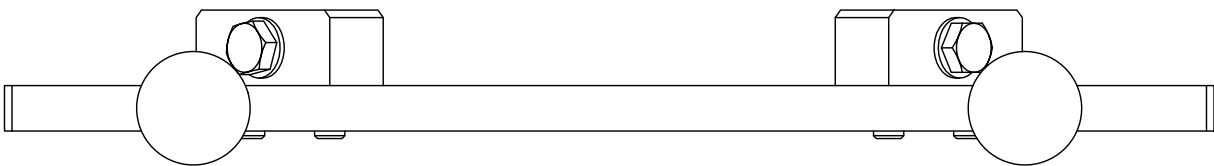
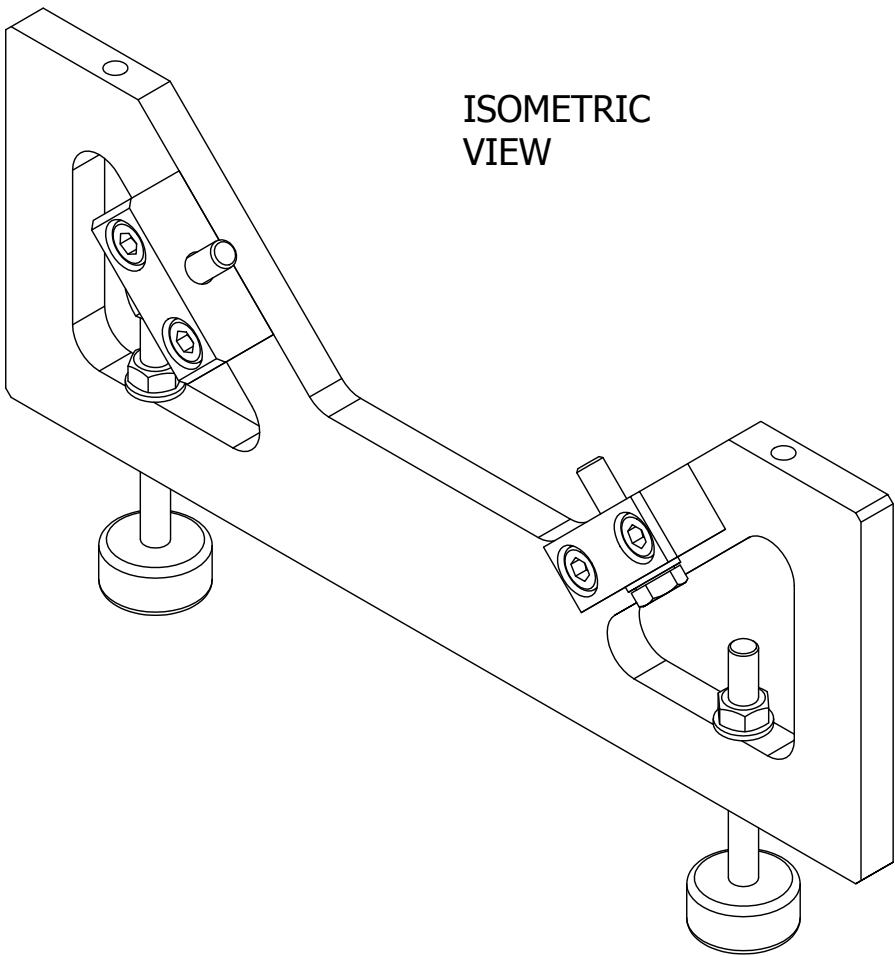


FACE VIEW

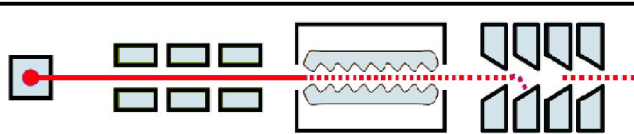


SIDE VIEW

ISOMETRIC VIEW



BASE VIEW



Title: SUPPORT BRACKET ASSEMBLY	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: ANGLE_BRACKET.iam
Checked by: N/A	Drawing file: GaborLens.idw
Date: 27 JAN 2015	Version number: 1
Manufactured by: HEP WORKSHOP	Project: GABOR LENS
Material: -	Sheet number: 6 / 28
Remove all burrs	Number off: 2 COMPLETE ASSEMBLIES
Scale: DO NOT SCALE	Drawing number: PS-FETS-000155
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk	(Work) 0207 594 7817 (Mobile) 07884 268058

Unless otherwise stated:

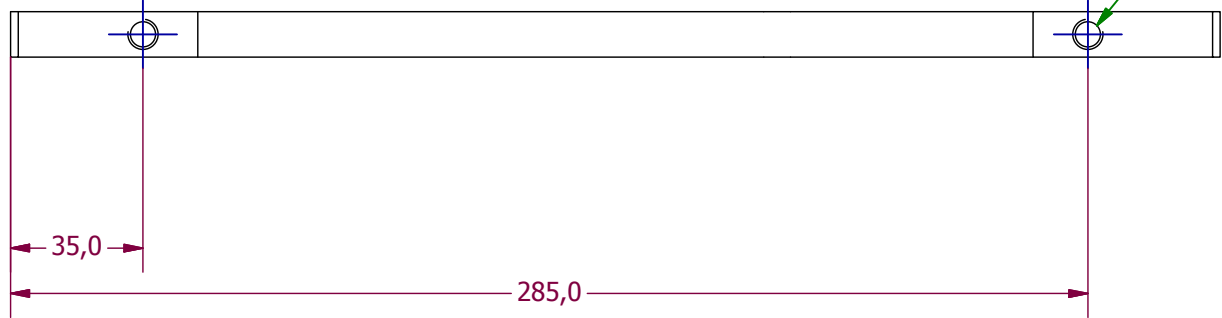
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm

Angular tolerance:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	1.6 microns
Dimensions in mm	□

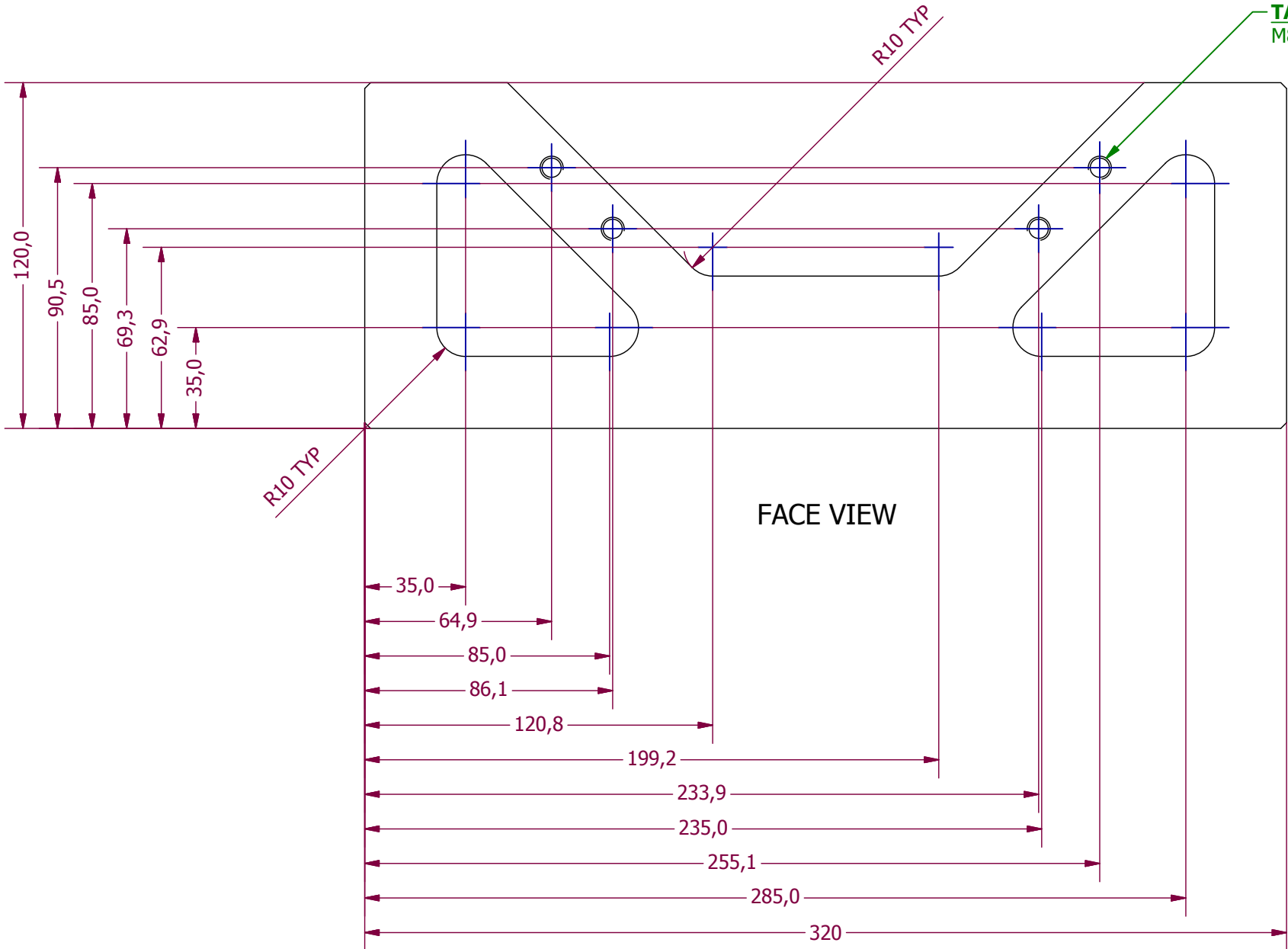
PS-FETS-000156

(PREVIOUSLY PS-FETS-000151)

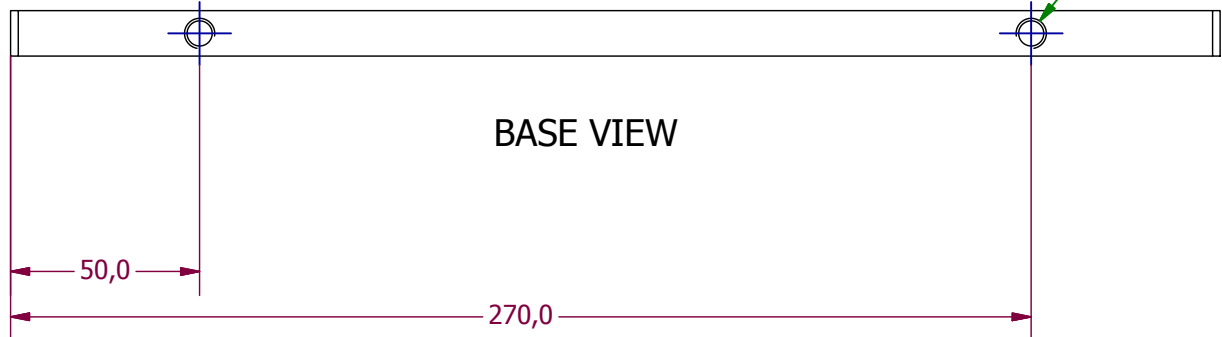
TOP VIEW



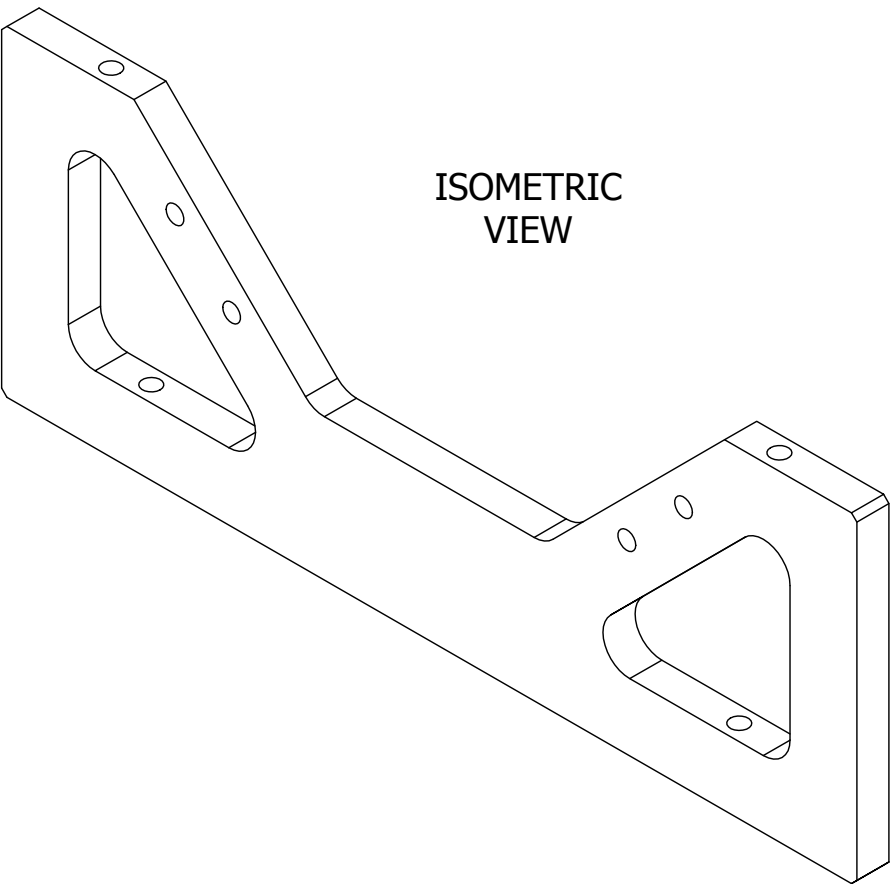
FACE VIEW



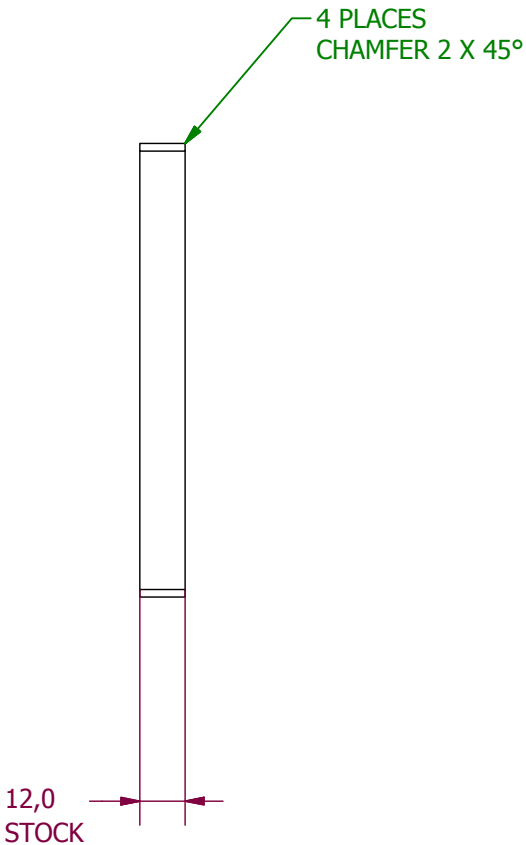
BASE VIEW



ISOMETRIC VIEW



SIDE VIEW

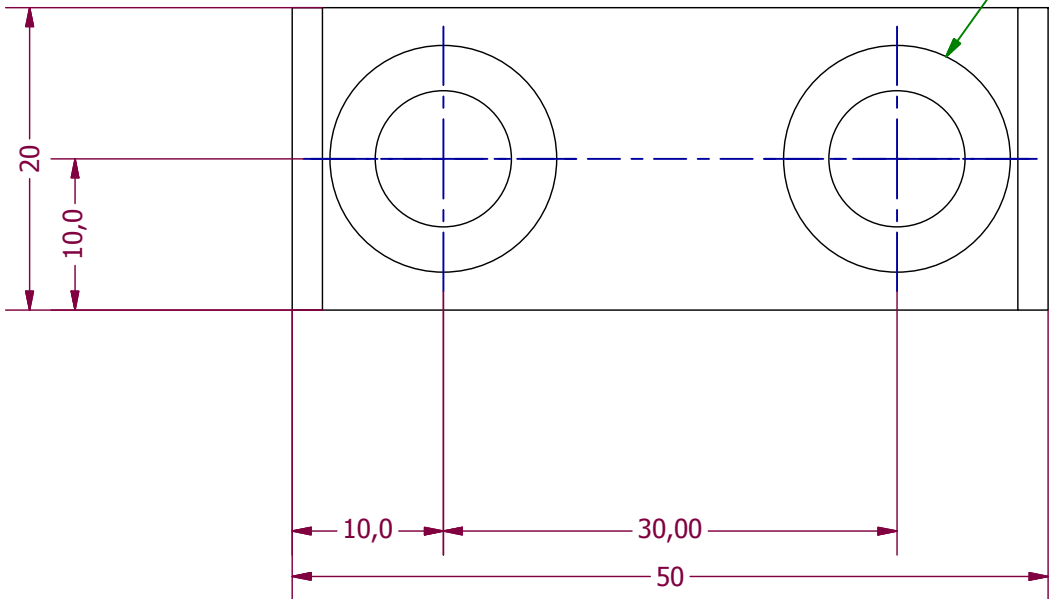


Title: SUPPORT BRACKET		<div>Unless otherwise stated:</div> <div><div>Dimensional tolerance:</div><div>X ± 0.5 mm</div><div>X.X ± 0.3 mm</div><div>X.XX ± 0.1 mm</div><div>Angular tolerance:</div><div>± 0.5°</div><div>Hole centres:</div><div>± 0.05 mm</div><div>Surface finish:</div><div>1.6 microns</div><div>Dimensions in mm</div><div>□</div></div>			
Drawn by:	P. SAVAGE			Projection:	THIRD ANGLE
Designed by:	P. SAVAGE			Model file:	[151] SUPPORT BRACKET.ipt
Checked by:	N/A			Drawing file:	GaborLens.idw
Date:	27 JAN 2015			Version number:	1
Manufactured by:	HEP WORKSHOP			Project:	GABOR LENS
Material:	5080 ALU TOOLING PLATE			Sheet number:	7 / 28
Remove all burrs				Number off:	-
Scale:	DO NOT SCALE			Drawing number:	PS-FETS-000156
Sheet size:	A2				
Notes:					
Contact:		p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058			

PS-FETS-000157

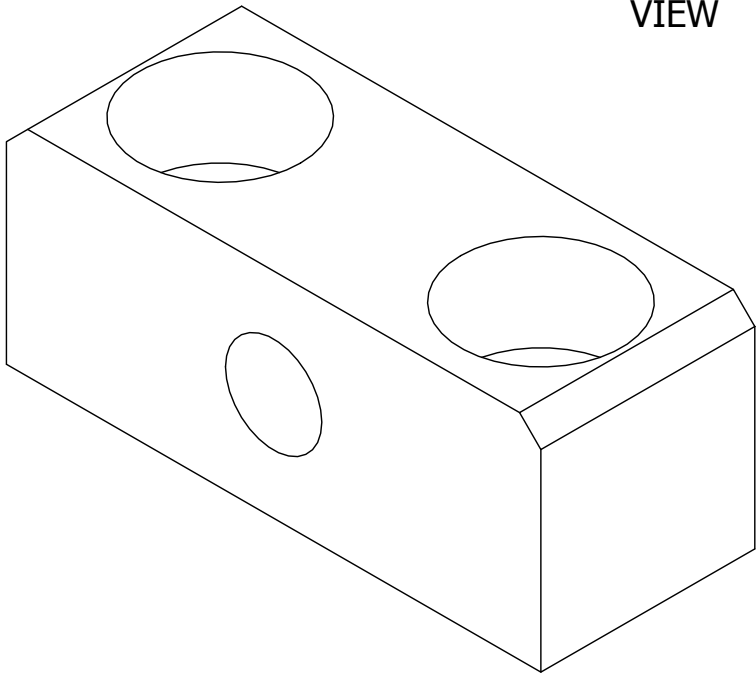
(PREVIOUSLY PS-FETS-000152)

TOP VIEW

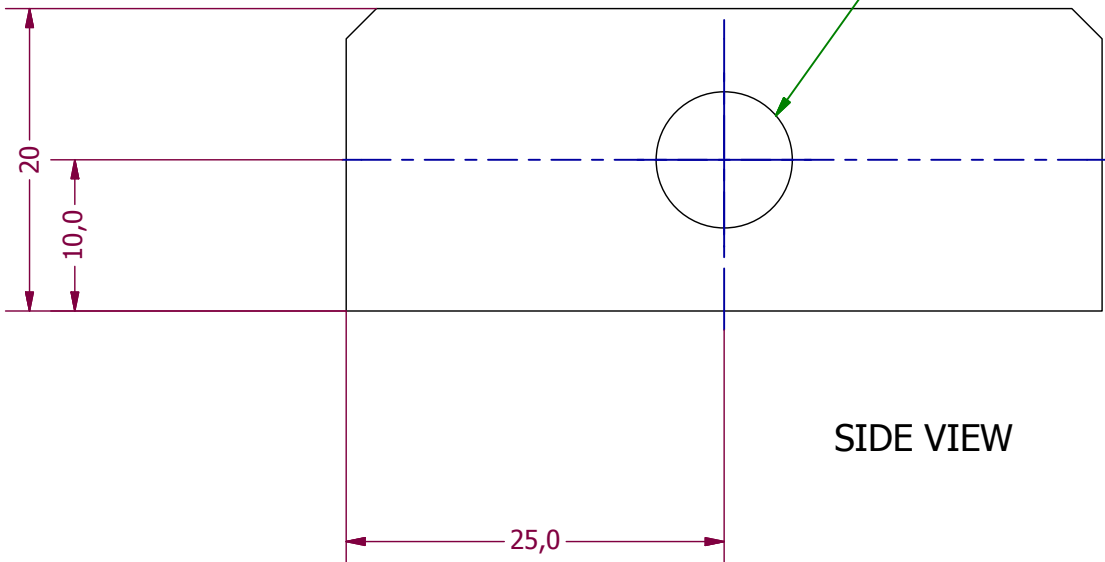


COUNTERBORED HOLES X 2
Ø9,0 THRU' THICKNESS
LØ15,0 X 9,0 DEEP

ISOMETRIC VIEW

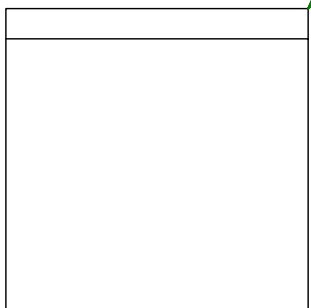


SIDE VIEW



CLEARANCE HOLE X 1
Ø9,0 THRU' THICKNESS

END VIEW



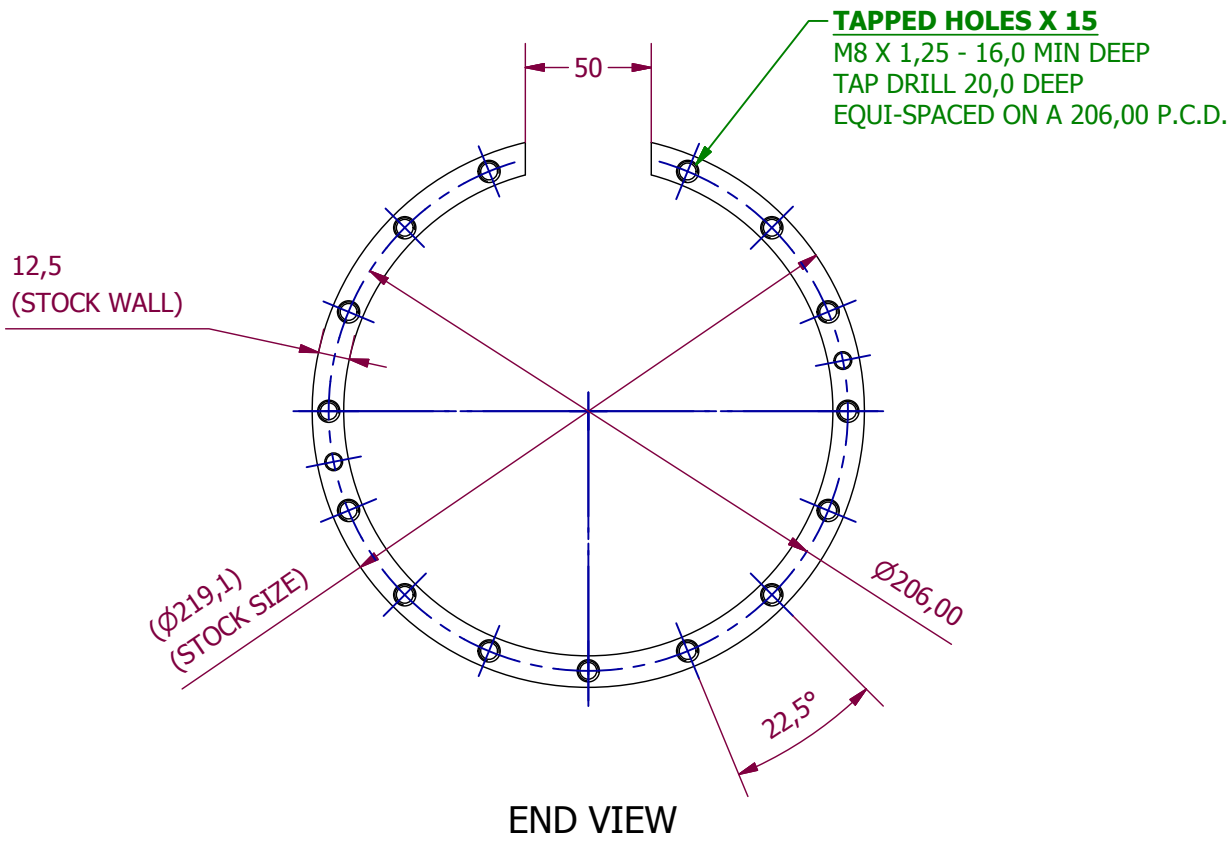
2 PLACES
CHAMFER 2 X 45°

NOTES:
1) WITH THE EXCEPTION OF THE CENTRAL HOLE, THESE PARTS ARE IDENTICAL TO THOSE SHOWN IN PS-FETS-000123

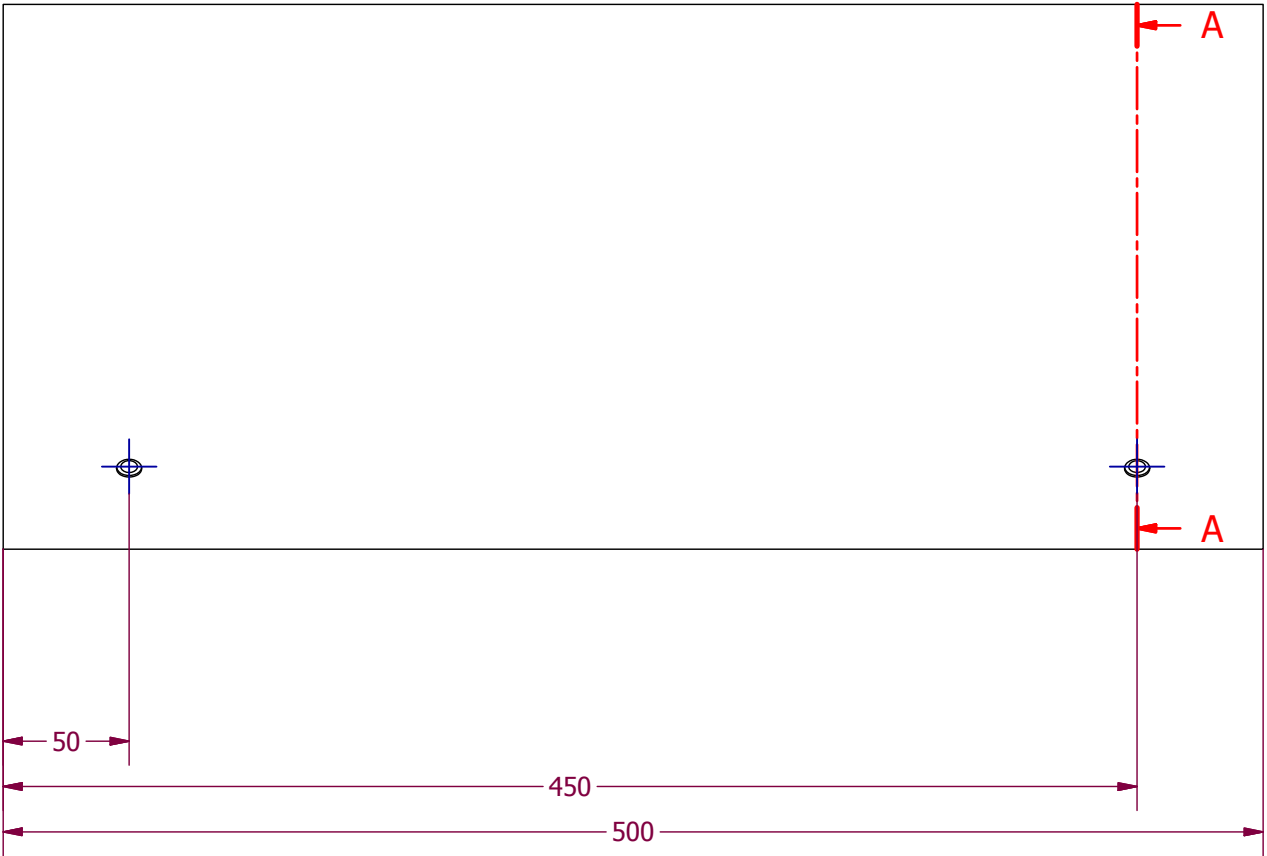
Title: CLAMPING BLOCK	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: [152] CLAMPING BLOCK.ipt
Checked by: N/A	Drawing file: GaborLens.idw
Date: 27 JAN 2015	Version number: 1
Manufactured by: HEP WORKSHOP	Project: GABOR LENS
Material: ALUMINIUM ALLOY	Sheet number: 8 / 28
Remove all burrs	Number off: -
Scale: DO NOT SCALE	Drawing number: PS-FETS-000157
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:	
Dimensional tolerance:	X ± 0.5 mm
	X.X ± 0.3 mm
	X.XX ± 0.1 mm
Angular tolerance:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	1.6 microns
Dimensions in mm	□

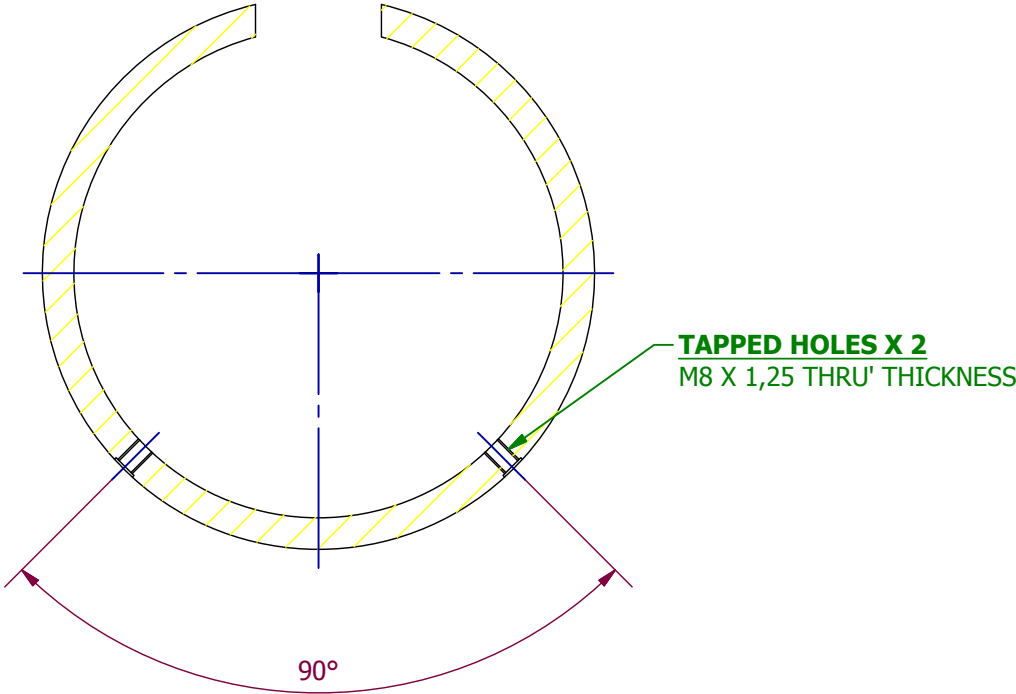
PS-FETS-000158



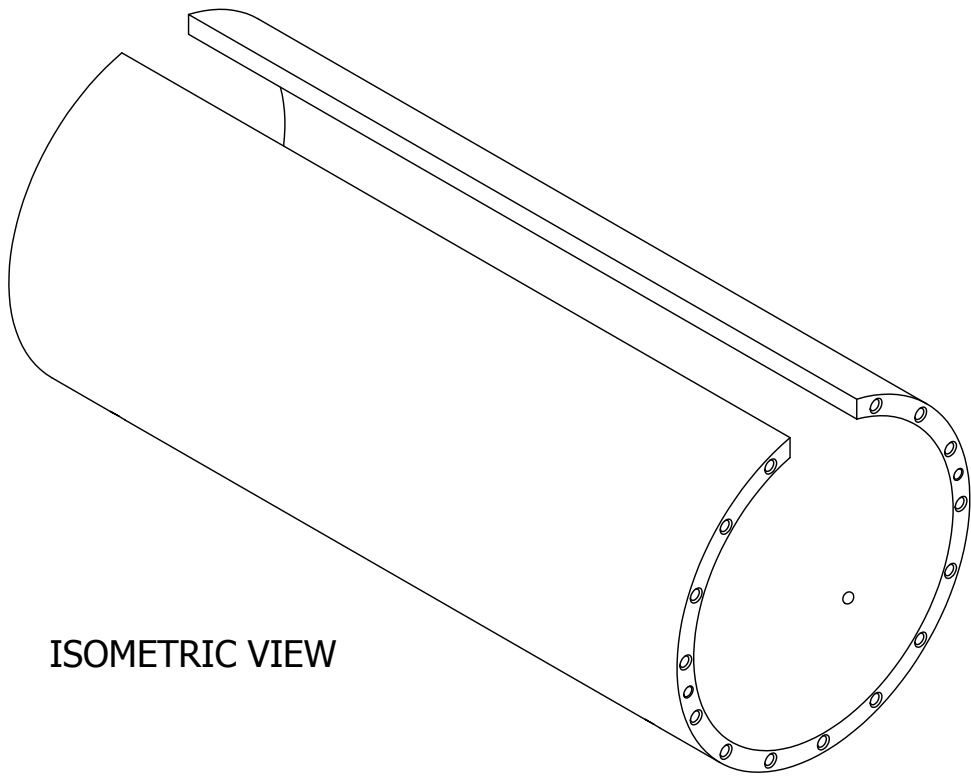
SIDE VIEW



SECTION VIEW
A-A (1 : 3)



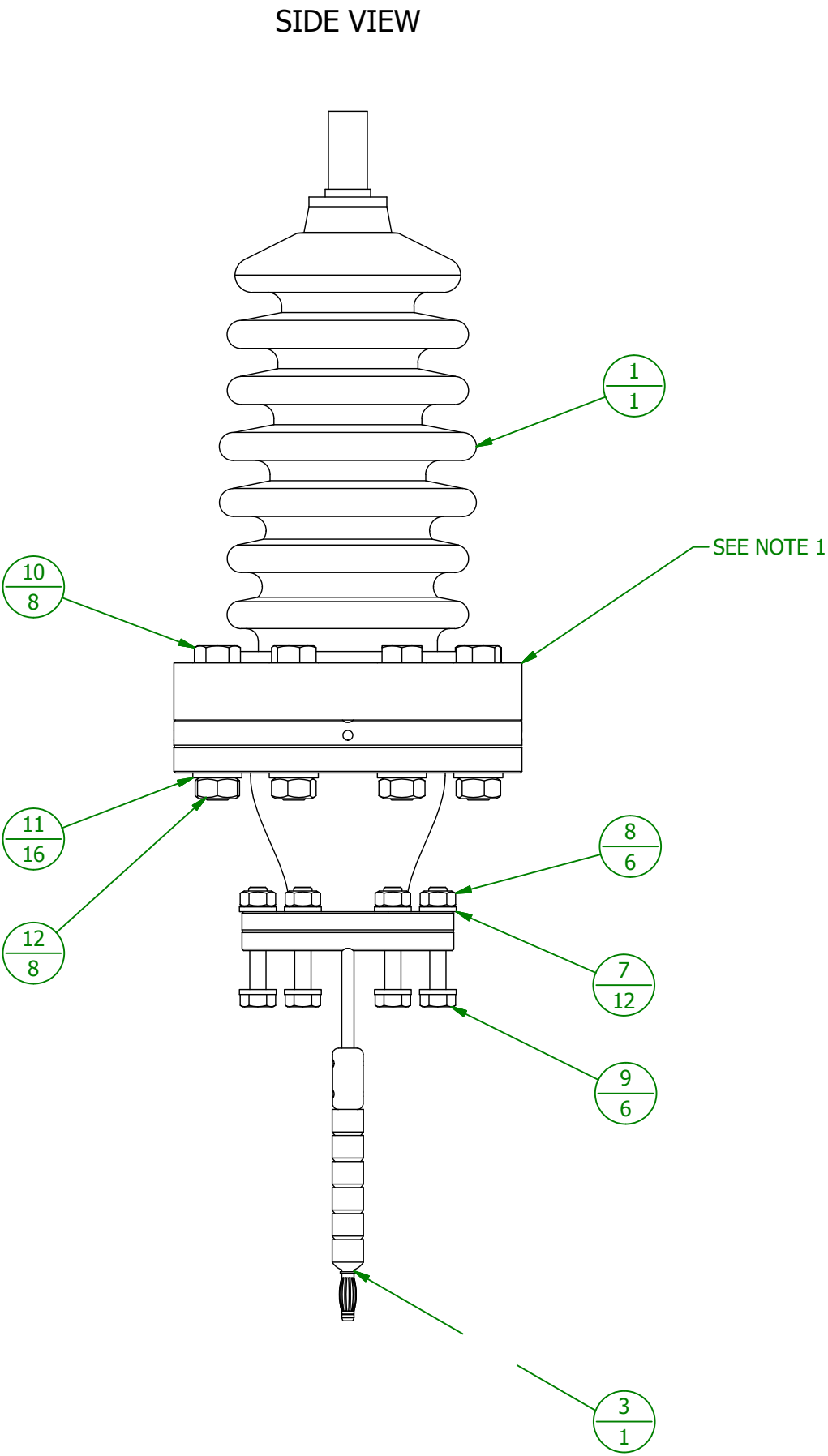
NEEDS TIGHTER
LENGTH
TOLERANCING
BECAUSE
AFFECTS THE
AMOUNT OF 'O'
RING
COMPRESSION



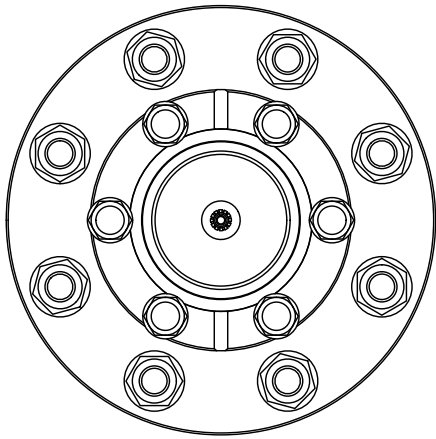
Title: OUTER TUBE		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: GL_OuterTube.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	3RD MARCH 2015	Version number: 1
Manufactured by:	H.E.P. WORKSHOP	Project: GABOR LENS
Material:	STEEL GRADE S355J2H	Sheet number: 9 / 28
Remove all burrs		Number off:
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000158
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

PS-FETS-000159

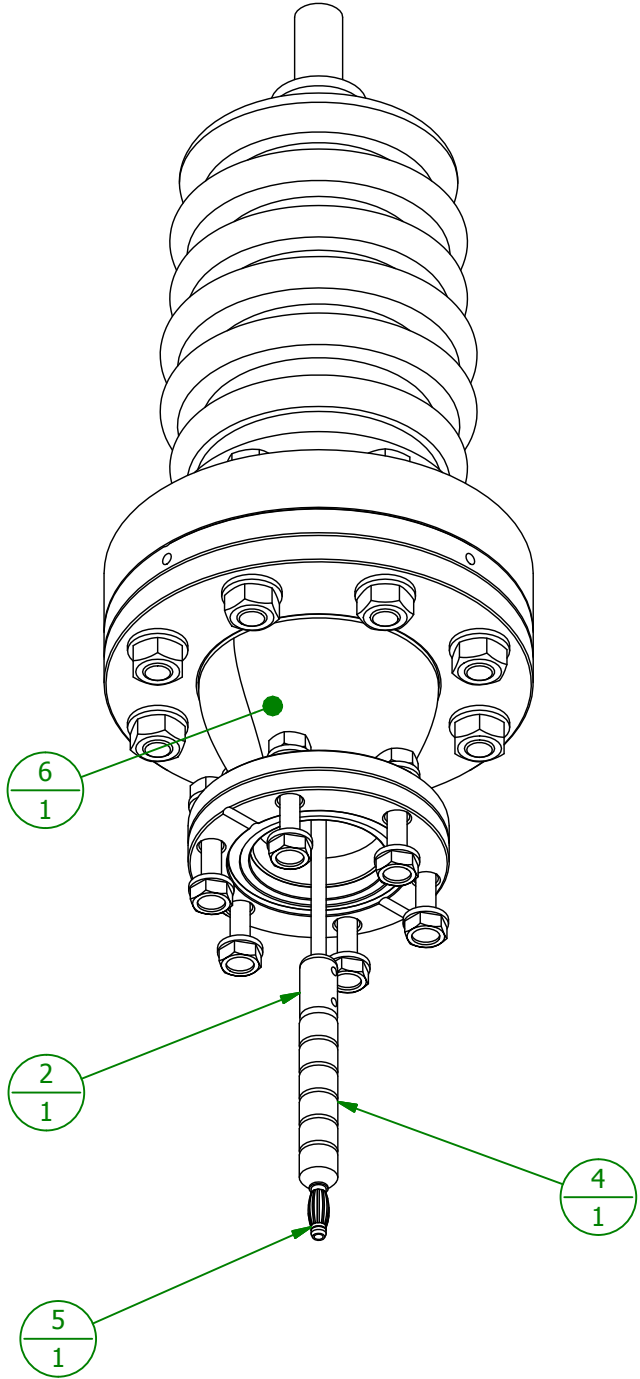


NOTES:
1) HV FEEDTHROUGH SHOWN IS NOT THE FINAL FEEDTHROUGH. FEEDTHROUGH SHOWN USES A DN100CF FLANGE. FINAL FEEDTHROUGH USES A DN63CF FLANGE.

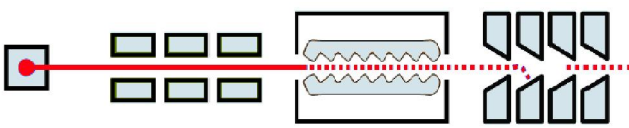


BASE VIEW

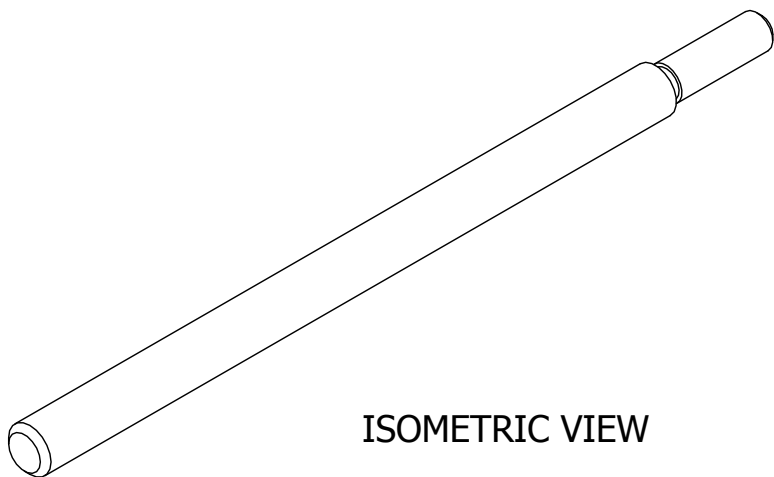
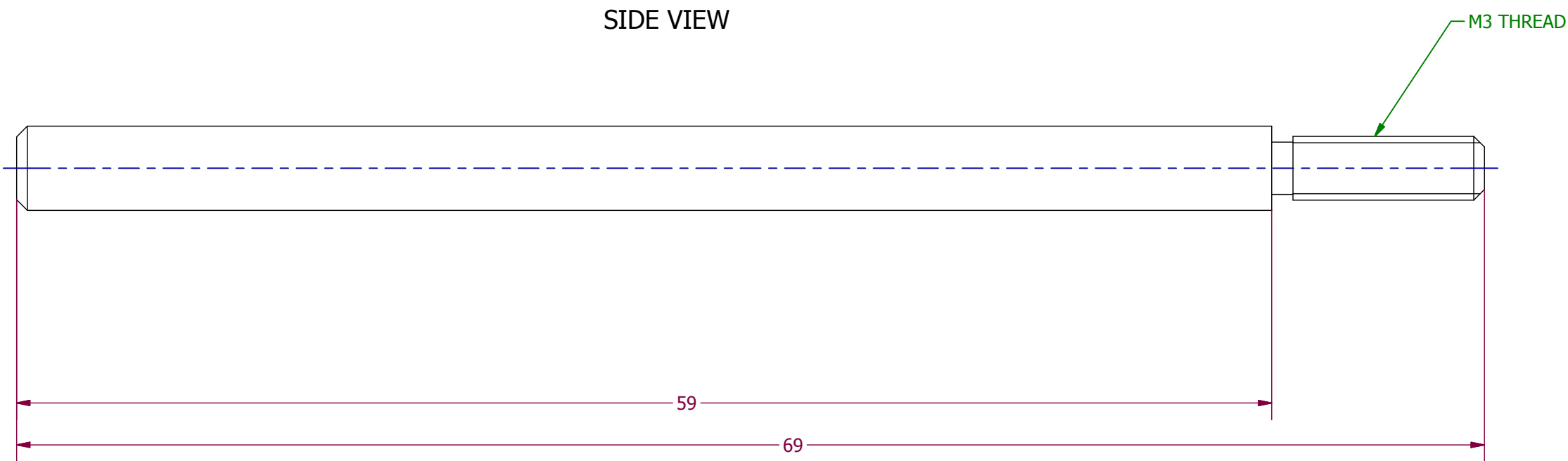
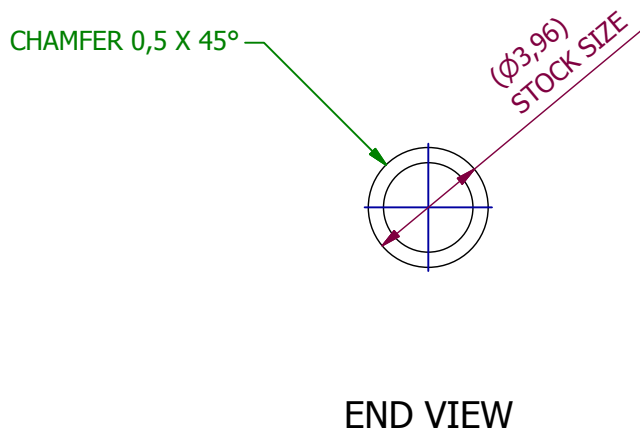
ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	EFT6012156A	H.V. FEEDTHROUGH	1	ORDERED FROM KURT LESKER, DELIVERY DATE 10 MAR 2015
2	PS-FETS-000161	H.V. CONDUCTOR LINK	1	COPPER - MATERIAL IN STOCK?
3	PS-FETS-000160	H.V. CONDUCTOR EXTENSION	1	COPPER - MATERIAL ORDERED FROM SMITHS METALS
4	FTACERB156	CERAMIC BEADS (ALUMINIUM OXIDE)	6	ORDERED FROM KURT LESKER, DELIVERY DATE 10 MAR 2015
5	1085561	4mm BANANA PLUG	1	ORDERED FROM FARNELL
6	CRN450X275	CONICAL REDUCER NIPPLE DN63CF TO DN35CF	1	ORDERED FROM KURT LESKER, DELIVERY DATE 10 MAR 2015
7	RS 527-404	M6 WASHER	12	TO BE ORDERED FROM RS IF NOT IN STOCK
8	RS 527-274	M6 NUT	6	TO BE ORDERED FROM RS IF NOT IN STOCK
9	RS 279-543	M6 X 35 HEX BOLT	6	TO BE ORDERED FROM RS IF NOT IN STOCK
10	RS 279-600	M8 X 45 HEX BOLT	8	TO BE ORDERED FROM RS IF NOT IN STOCK
11	RS 797-6068	M8 WASHER	16	TO BE ORDERED FROM RS IF NOT IN STOCK
12	RS 530-769	M8 NUT	8	TO BE ORDERED FROM RS IF NOT IN STOCK
14	RS	M3 X 2,5 HEX HEAD GRUB SCREW	2	TO BE ORDERED FROM RS - MUST NOT PROTRUDE FROM HOLE



ISOMETRIC VIEW

Title: H.V. FEEDTHROUGH ASSEMBLY			<div></div> <div>Unless otherwise stated:</div> <div>Dimensional tolerance: X ± 0.5 mm</div> <div>X.X ± 0.3 mm</div> <div>X.XX ± 0.1 mm</div> <div>Angular tolerance: ± 0.5°</div> <div>Hole centres: ± 0.05 mm</div> <div>Surface finish: 1.6 microns</div> <div>Dimensions in mm □</div>
Drawn by: P. SAVAGE	Projection: THIRD ANGLE		
Designed by: P. SAVAGE	Model file: HV_Feedthrough.iam		
Checked by: N/A	Drawing file: GaborLens.idw		
Date: 6TH MARCH 2015	Version number: 1		
Manufactured by: ASSEMBLED BY H.E.P. WORKSHOP	Project: GABOR LENS		
Material: -	Sheet number: 10 / 28		
Remove all burrs	Number off: 1 COMPLETE ASSEMBLY		
Scale: DO NOT SCALE	Drawing number: PS-FETS-000159		
Sheet size: A2			
Notes: -			
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058			

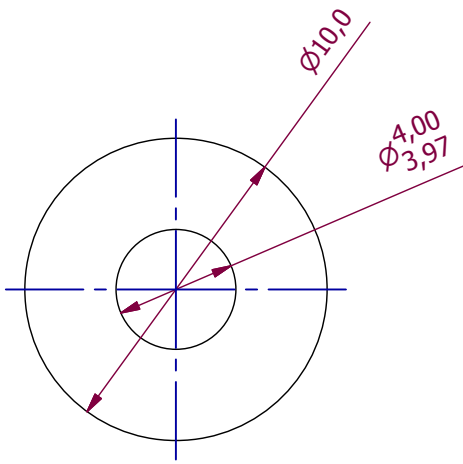
NOTES:
HV FEEDTHROUGH MEASURED AND LENGTH CONFIRMED
23 APRIL 2015



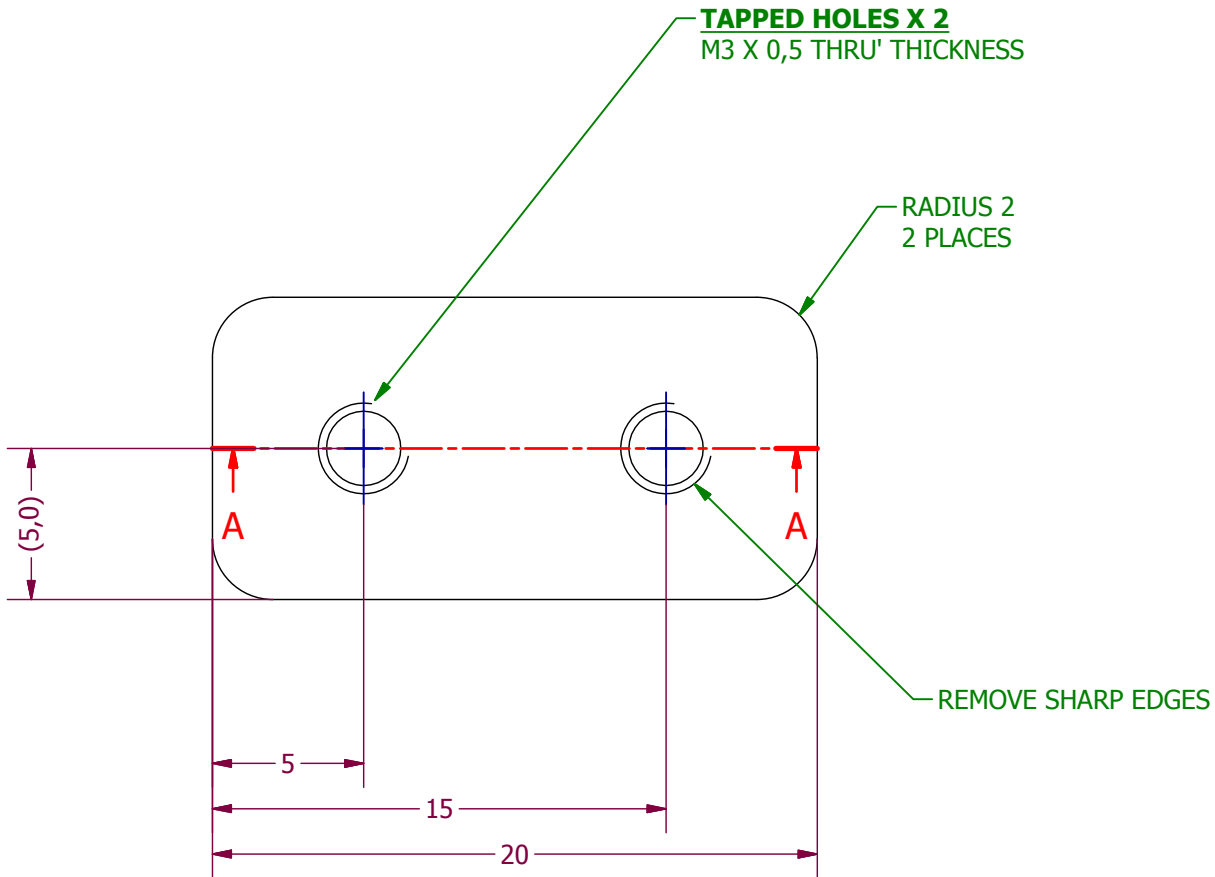
Title: H.V. CONDUCTOR EXTENSION		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: Central_Conductor.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	23RD APRIL 2015	Version number: 1
Manufactured by:	P. SAVAGE	Project: GABOR LENS
Material:	COPPER	Sheet number: 11 / 28
Remove all burrs		Number off: -
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000160
Sheet size:	A2	
Notes: -		
Contact:	p.savage@imperial.ac.uk	(Work) 0207 594 7817 (Mobile) 07884 268058

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

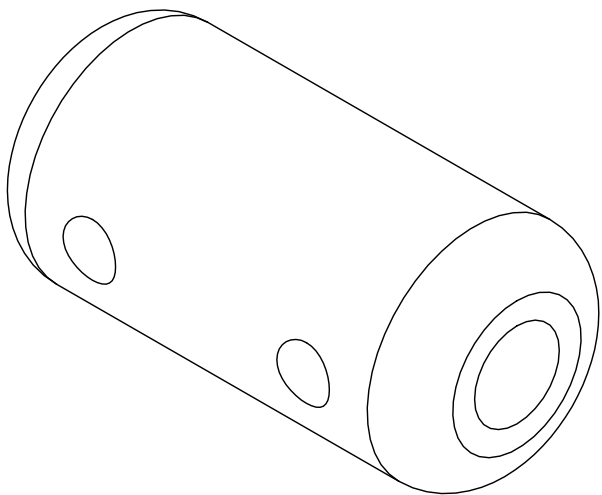
PS-FETS-000161



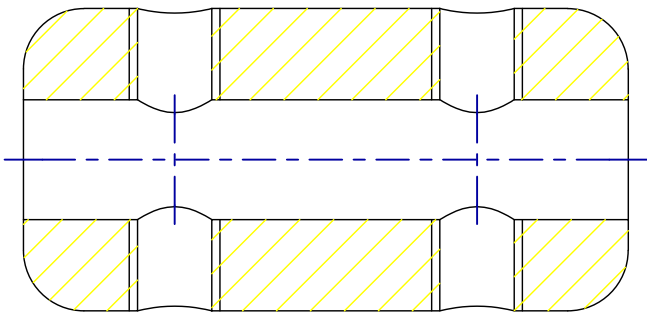
END VIEW



SIDE VIEW



ISOMETRIC VIEW



SIDE SECTION VIEW
A-A (4 : 1)

NOTES:

1) REMOVE SHARP EDGES TO AVOID SPARKING

Title: H.V. CONDUCTOR LINK		
Drawn by: P. SAVAGE	Projection: THIRD ANGLE	
Designed by: P. SAVAGE	Model file: Conductor_Link.ipt	
Checked by: N/A	Drawing file: GaborLens.idw	
Date: 3RD MARCH 2015	Version number: 1	
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS	
Material: COPPER	Sheet number: 12 / 28	
Remove all burrs	Number off: -	
Scale: DO NOT SCALE	Drawing number: PS-FETS-000161	
Sheet size: A2		
Notes: -		
Contact: p.savage@imperial.ac.uk	(Work) 0207 594 7817	(Mobile) 07884 268058

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

PS-FETS-000162

ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	PS-FETS-000163	END FLANGE	1	EN8 STEEL
2	PS-FETS-000164	END TUBE	1	COPPER
3	RS 797-6068	M8 WASHER	24	TO BE ORDERED IF NOT IN STOCK
4	RS 530-796	M8 NUT	8	TO BE ORDERED IF NOT IN STOCK
5	BS346V75	O RING	2	ORDERED FROM POLYMAX
6	RS 280-408	M8 X 50 LONG STUDDING	8	TO BE ORDERED IF NOT IN STOCK
7	RS 293-426	M8 x 35 CAP HEAD SCREW	16	TO BE ORDERED IF NOT IN STOCK
8	F0600X000N	DN100CF BLANKING FLANGE	1	ORDERED FROM KURT LESKER
9	RS 270-653	DIAM 6 X 32 DOWEL	2	TO BE ORDERED IF NOT IN STOCK

QUANTITIES SHOWN ARE PER ASSEMBLY

OUTER FACE VIEW

SIDE SECTION VIEW
A-A (1 : 2)

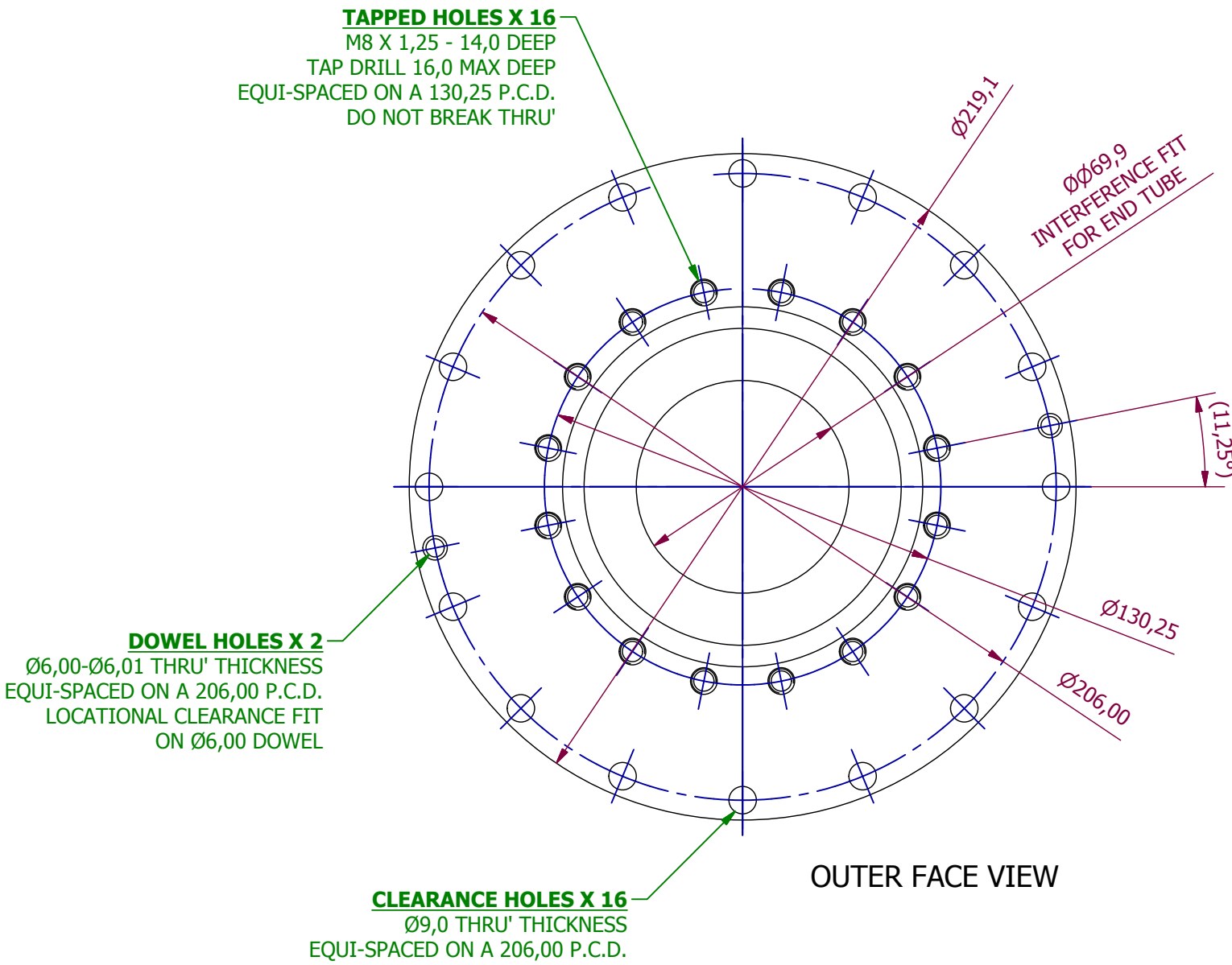
INNER FACE VIEW

ISOMETRIC VIEW

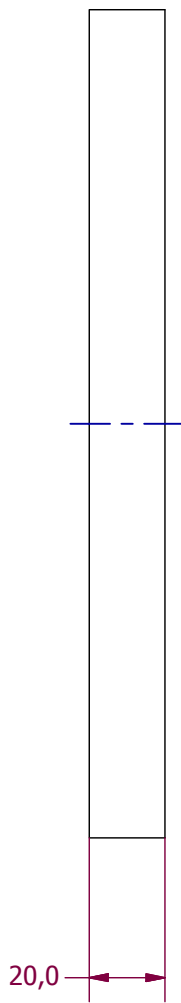
Title: END FLANGE ASSEMBLY	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GL_EndFlange.iam
Checked by: P. SAVAGE	Drawing file: GaborLens.idw
Date: 6TH MARCH 2015	Version number: 1
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: -	Sheet number: 13 / 28
Remove all burrs	Number off: 2 COMPLETE ASSEMBLIES
Scale: DO NOT SCALE	Drawing number: PS-FETS-000162
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

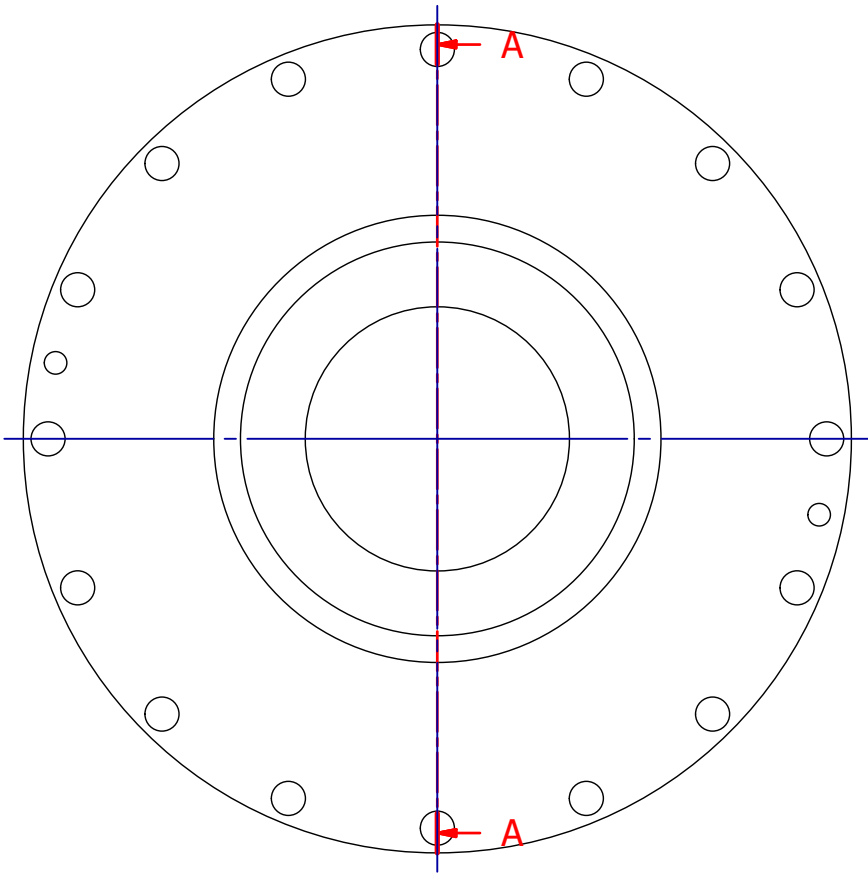
Imperial College
London



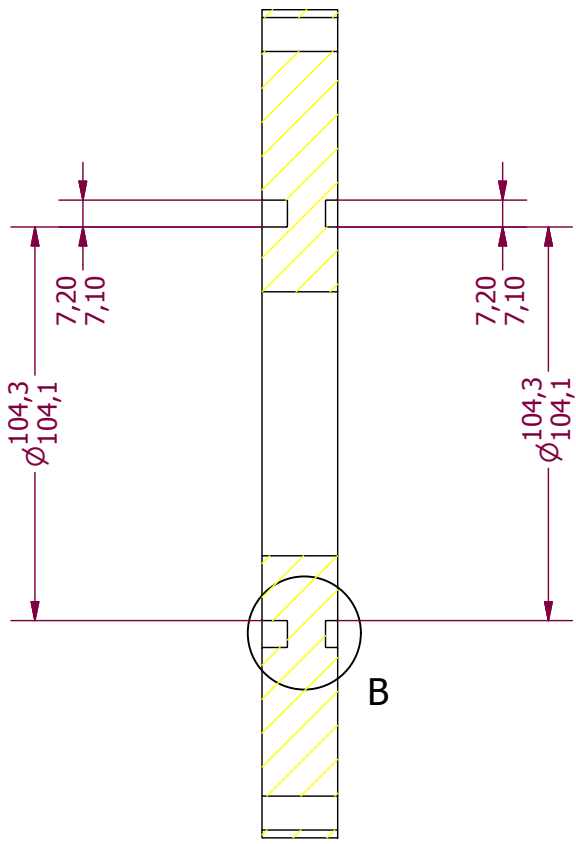
SIDE VIEW



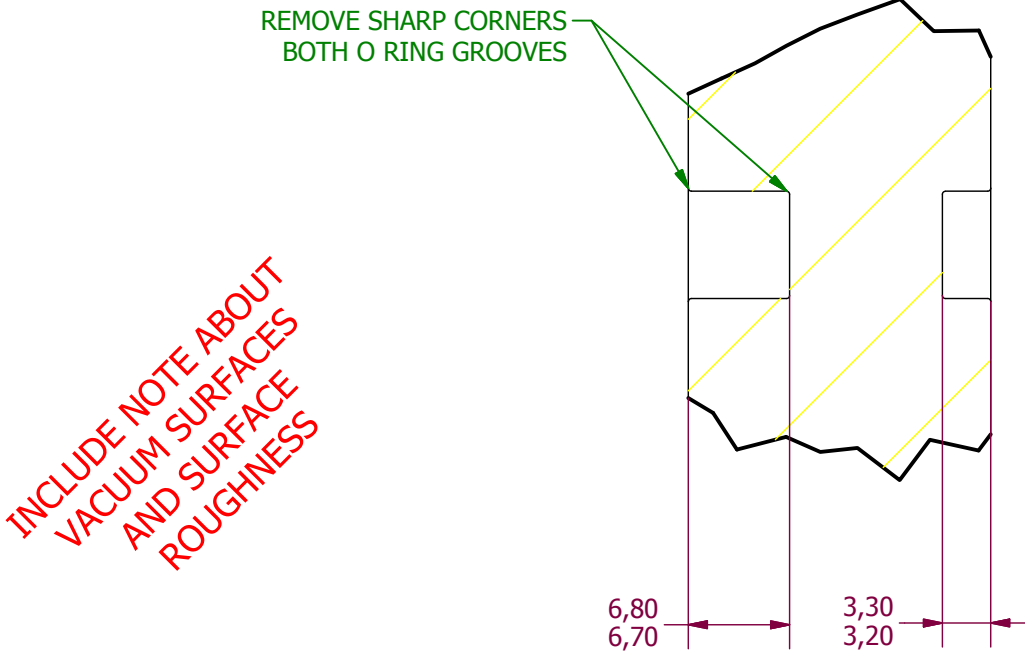
INNER FACE VIEW



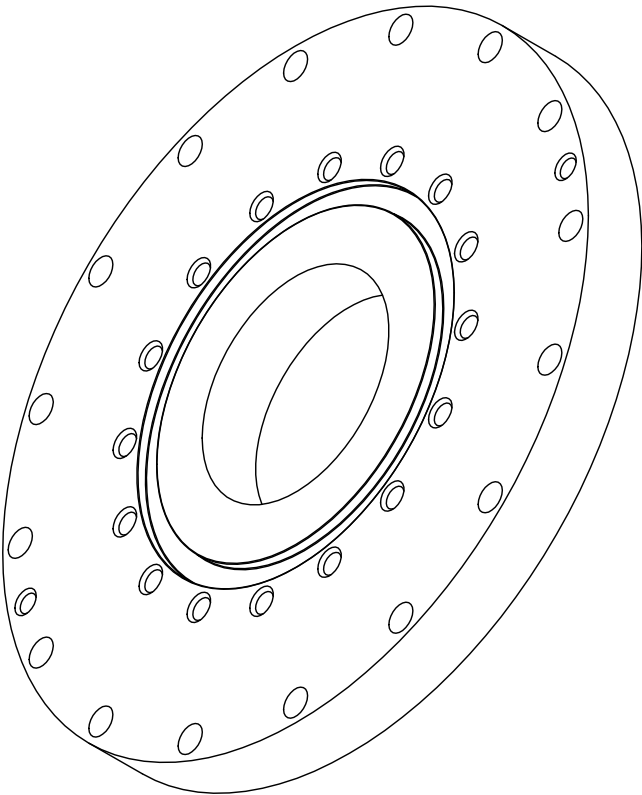
SIDE SECTION
VIEW
A-A (1 : 2)



O RING GROOVE
DETAIL VIEW
B (2 : 1)



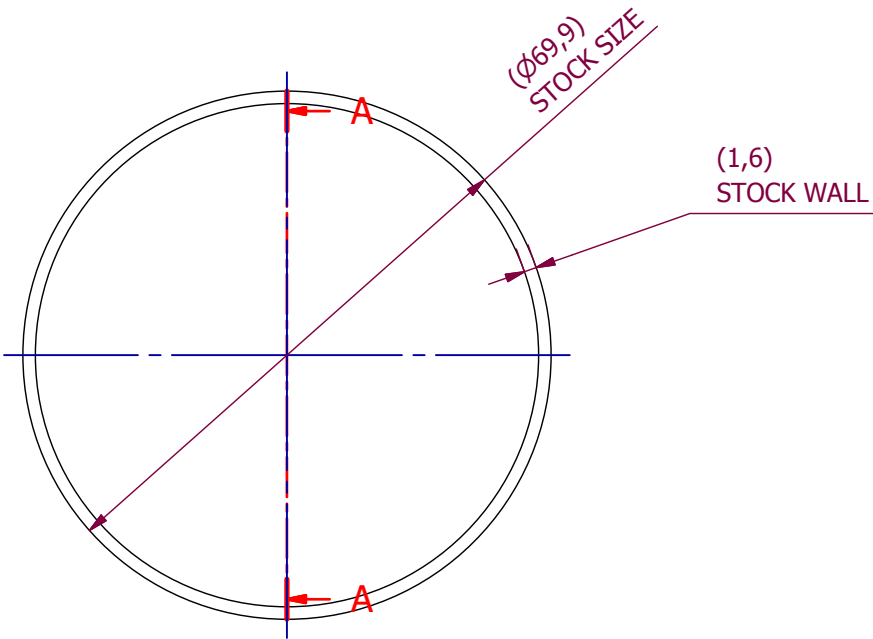
INCLUDE NOTE ABOUT
VACUUM SURFACES
AND SURFACE
ROUGHNESS



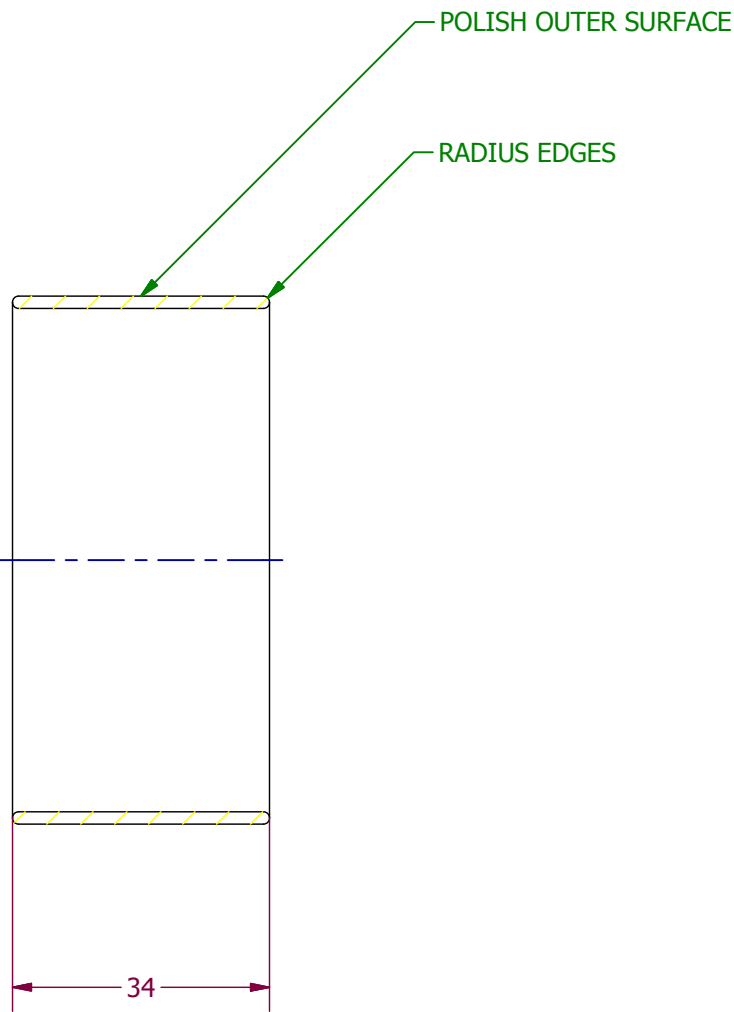
ISOMETRIC VIEW

Title: END FLANGE		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: [163] GL_EndFlange.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	6TH MARCH 2015	Version number: 1
Manufactured by:	H.E.P. WORKSHOP	Project: GABOR LENS
Material:	EN8 STEEL	Sheet number: 14 / 28
Remove all burrs		Number off: -
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000163
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

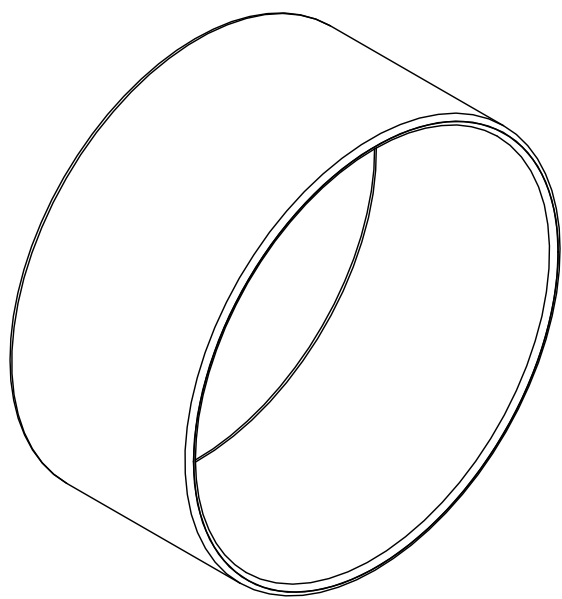
Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



END VIEW

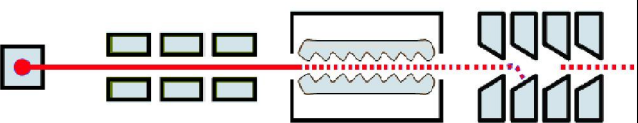


SIDE SECTION VIEW
A-A (1 : 1)



ISOMETRIC VIEW

Title: END TUBE		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVGAE	Model file: GL_Electrode_End_Large.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	4TH MARCH 2015	Version number: 1
Manufactured by:	H.E.P. WORKSHOP	Project: GABOR LENS
Material:	COPPER	Sheet number: 15 / 28
Remove all burrs		Number off: -
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000164
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	



Unless otherwise stated:

Dimensional tolerance: X ± 0.5 mm
X.X ± 0.3 mm
X.XX ± 0.1 mm

Angular tolerance: ± 0.5°

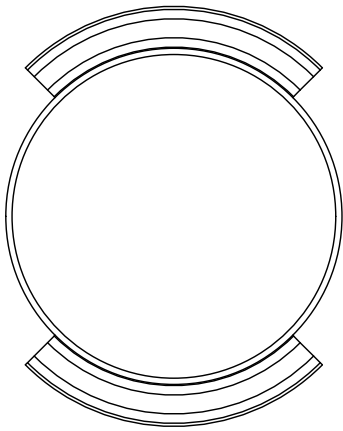
Hole centres: ± 0.05 mm

Surface finish: 1.6 microns

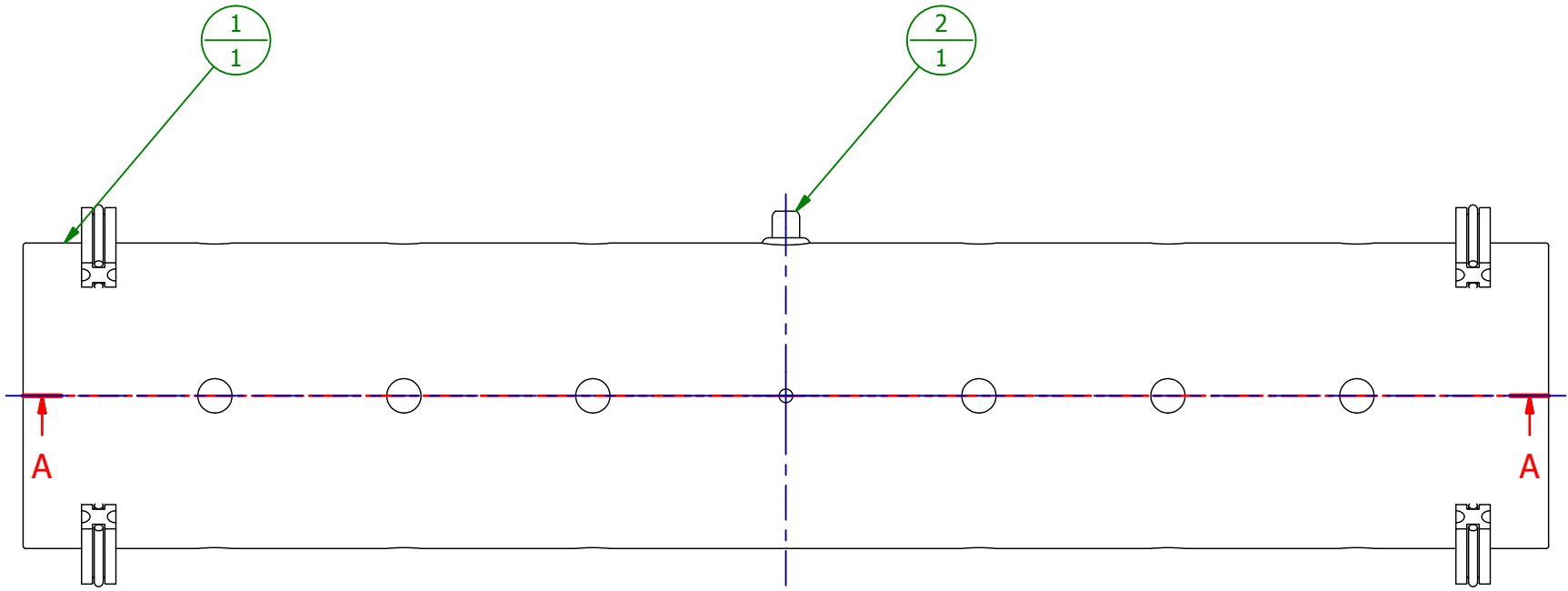
Dimensions in mm □

PS-FETS-000165

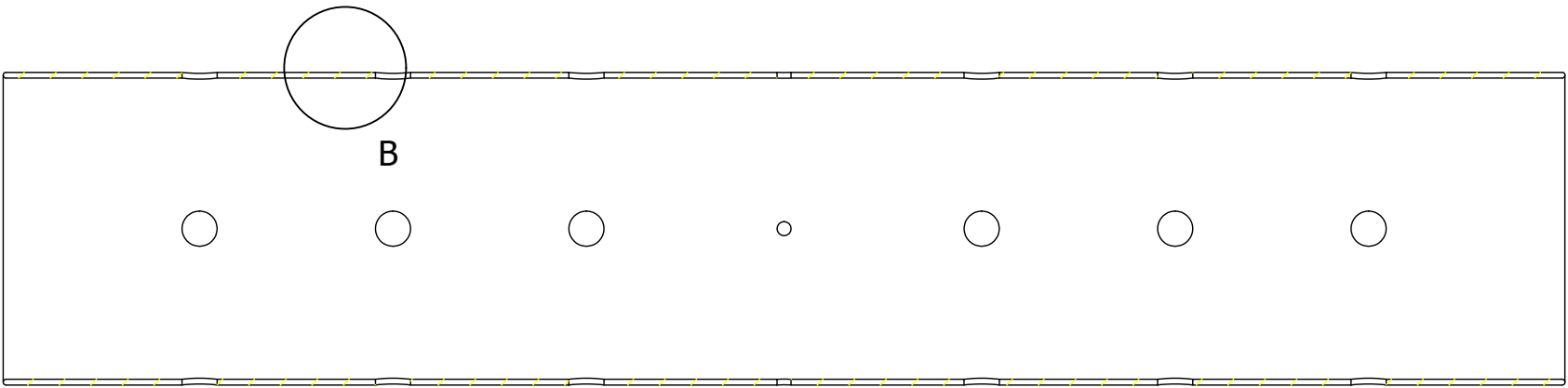
ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	PS-FETS-000166	CENTRAL ELECTRODE	1	
2	PS-FETS-000167	ELECTRODE CONNECTOR	1	
3	PS-FETS-000168	INSULATOR RING	2	REQUEST QUOTE FROM CERAMIC SUBSTRATES
4	BS155V75	POLYMAX O RING	2	
5	BS153V75	POLYMAX O RING	2	



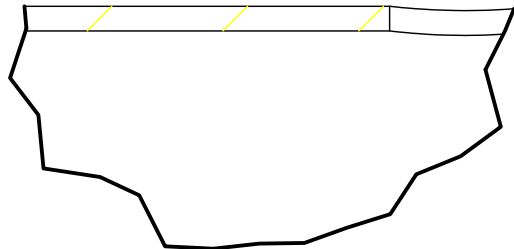
END VIEW



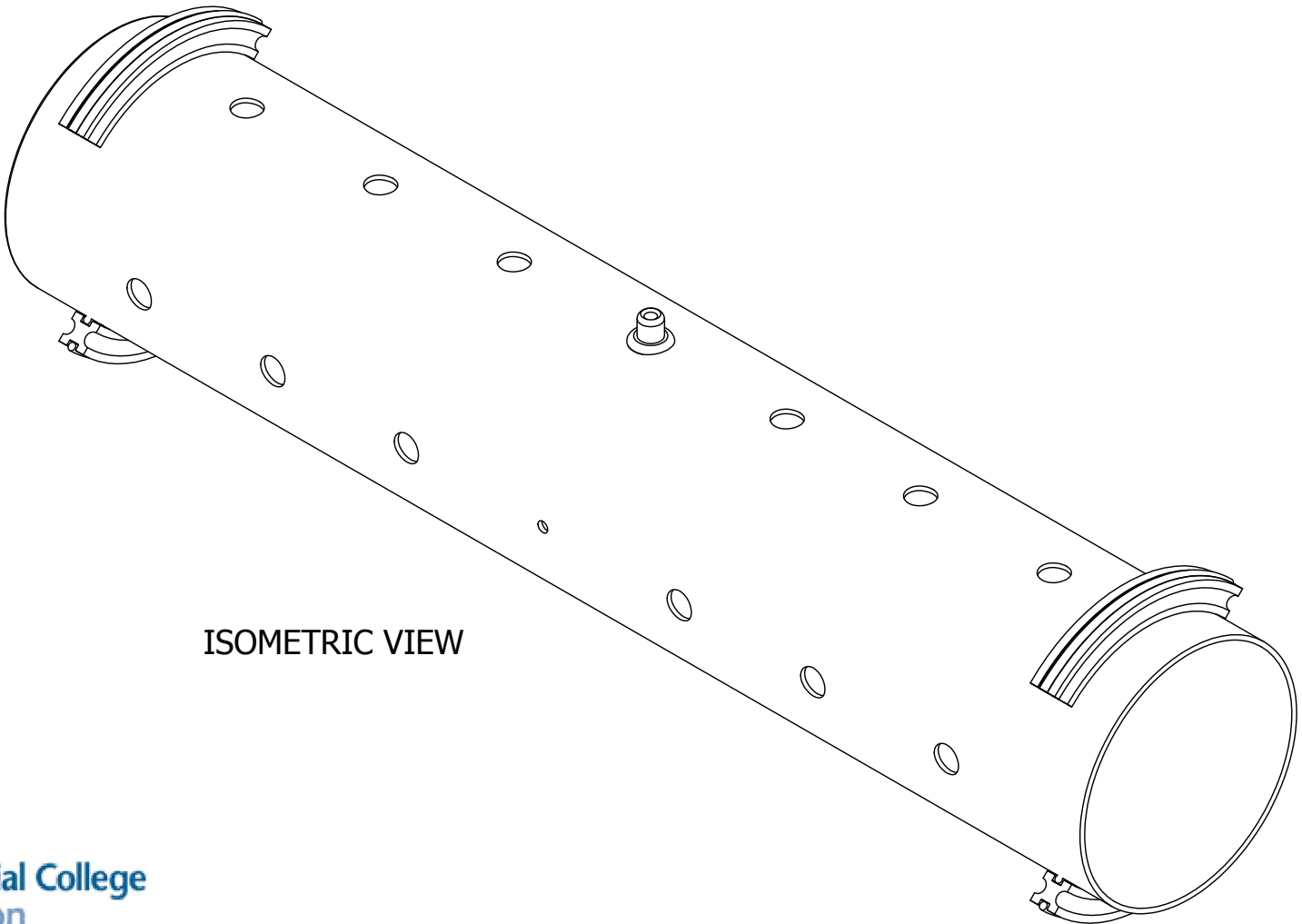
SIDE VIEW



SIDE SECTION VIEW
A-A (1 : 2)



INSULATOR RING DETAIL
SECTION VIEW
B (2 : 1)

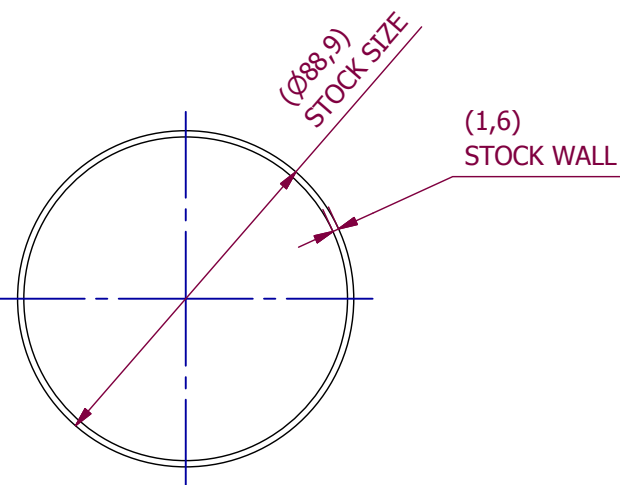


ISOMETRIC VIEW

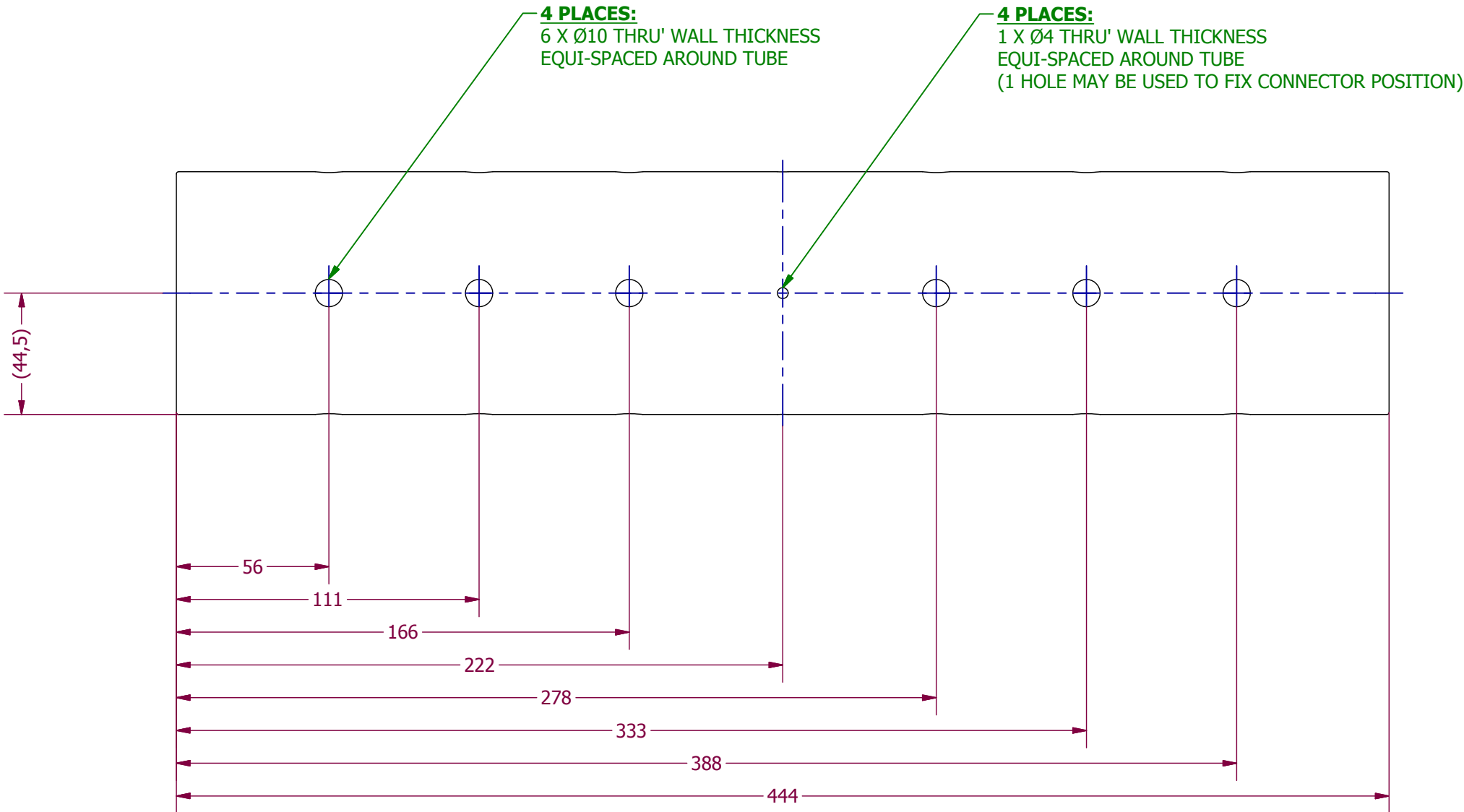
Title: CENTRAL ELECTRODE ASSEMBLY	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GL_Electrode_Inner.iam
Checked by: N/A	Drawing file: GaborLens.idw
Date: 3RD MARCH 2015	Version number: 1
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: -	Sheet number: 16 / 28
Remove all burrs	Number off: 1 COMPLETE ASSEMBLY
Scale: DO NOT SCALE	Drawing number: PS-FETS-000165
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk	(Work) 0207 594 7817 (Mobile) 07884 268058

Unless otherwise stated:	
Dimensional tolerance:	X ± 0.5 mm
	X.X ± 0.3 mm
	X.XX ± 0.1 mm
Angular tolerance:	± 0.5°
Hole centres:	± 0.05 mm
Surface finish:	1.6 microns
Dimensions in mm	□

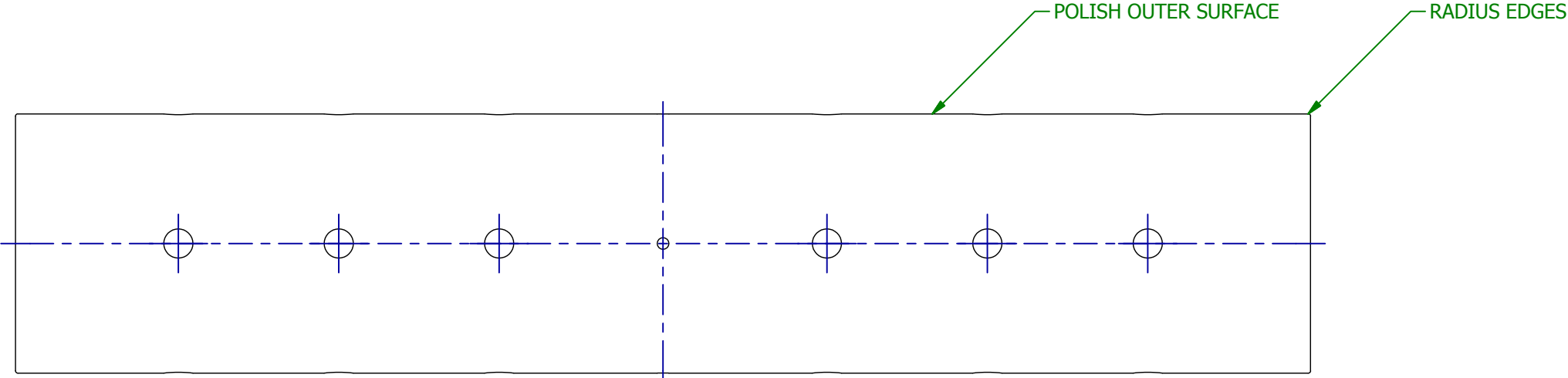
PS-FETS-000166



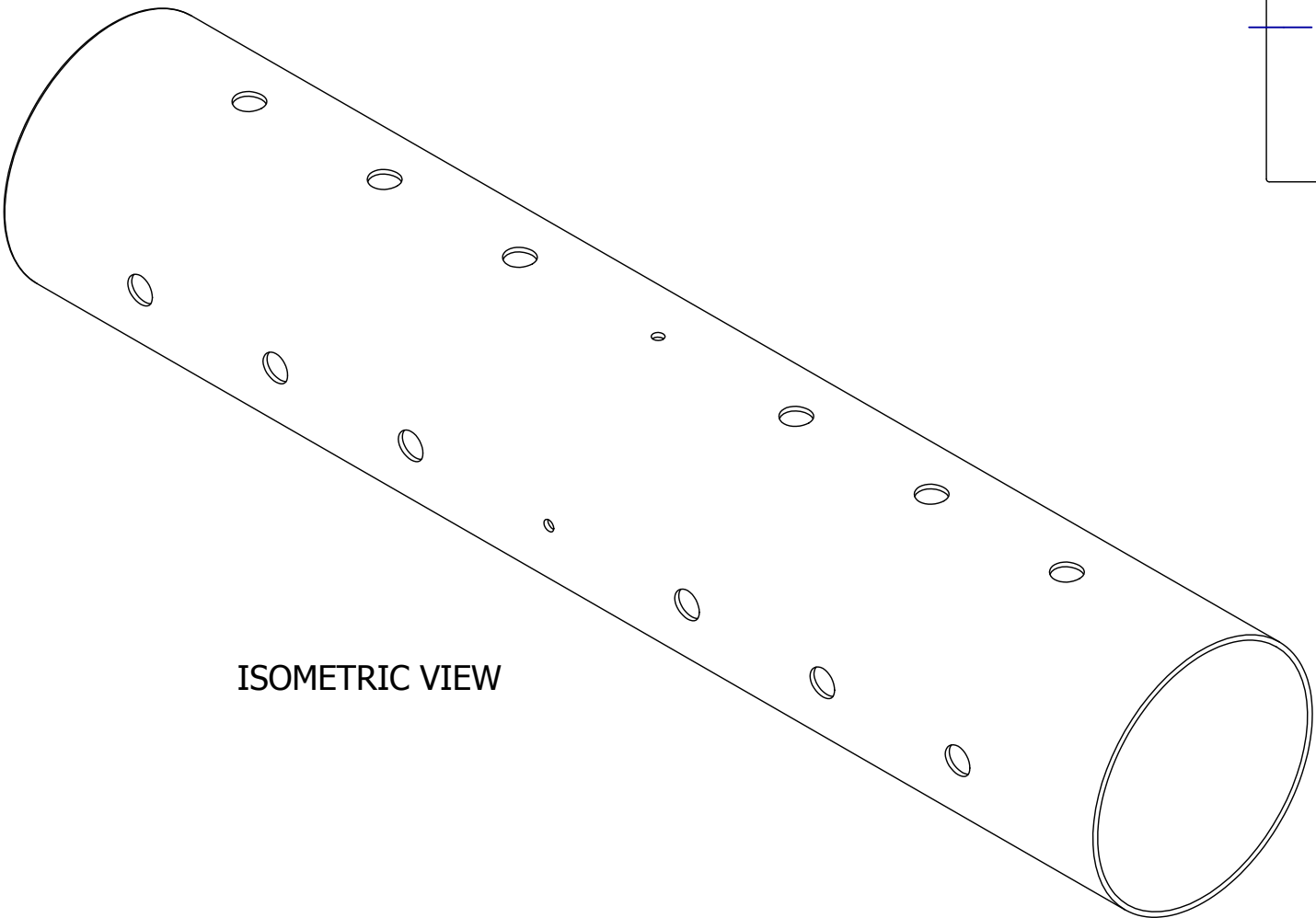
END VIEW



SIDE VIEW











ROTATED SIDE VIEW



ISOMETRIC VIEW

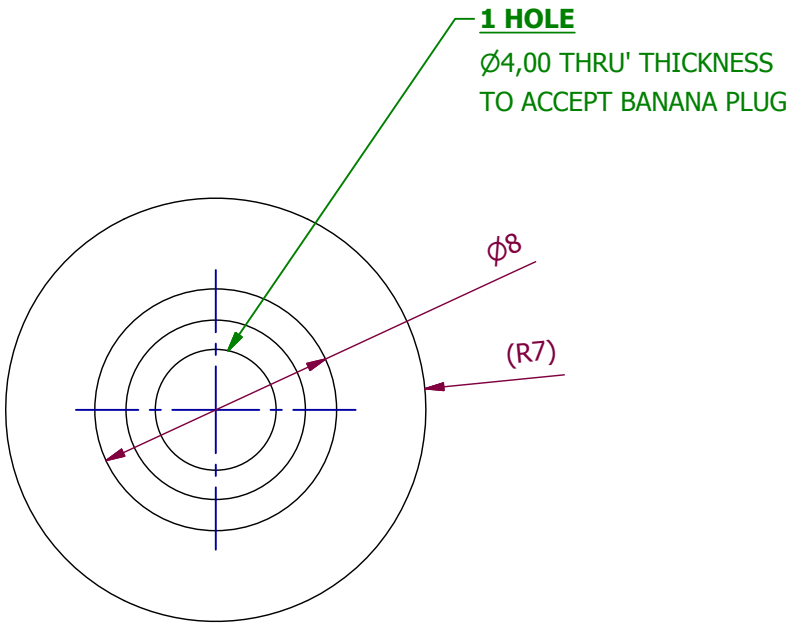
- NOTES:**
- 1) Ø10 HOLES FOR VACUUM RELIEF ONLY, DIAMETER AND POSITION NOT CRITICAL
 - 2) REMOVE SHARP EDGES FROM ENDS AND HOLES
 - 3) MAY BE WORTH INVESTING IN ELECTRO-POLISHING

Title: CENTRAL ELECTRODE	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: GL_Electrode_Inner.ipt
Checked by: N/A	Drawing file: GaborLens.idw
Date: 3RD MARCH 2015	Version number: 1
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: COPPER	Sheet number: 17 / 28
Remove all burrs	Number off: -
Scale: DO NOT SCALE	Drawing number: PS-FETS-000166
Sheet size: A2	
Notes: -	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

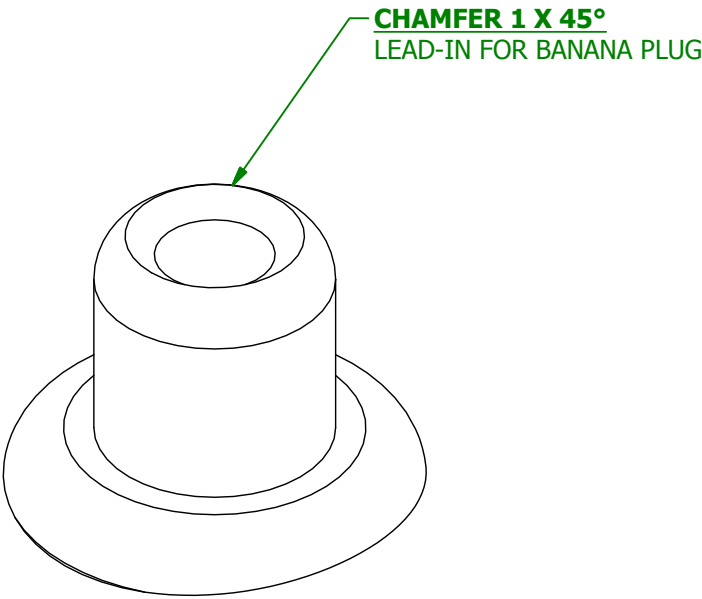


Unless otherwise stated:

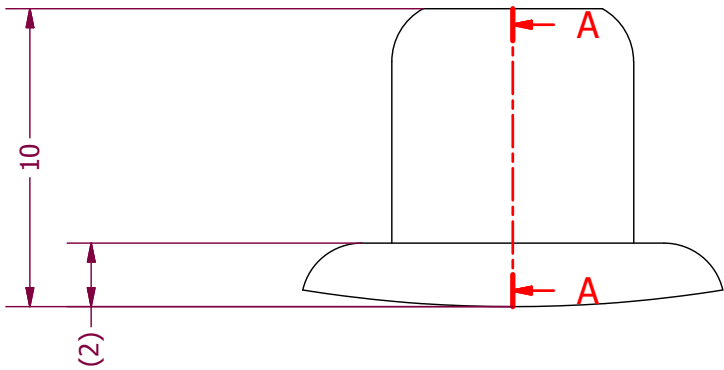
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



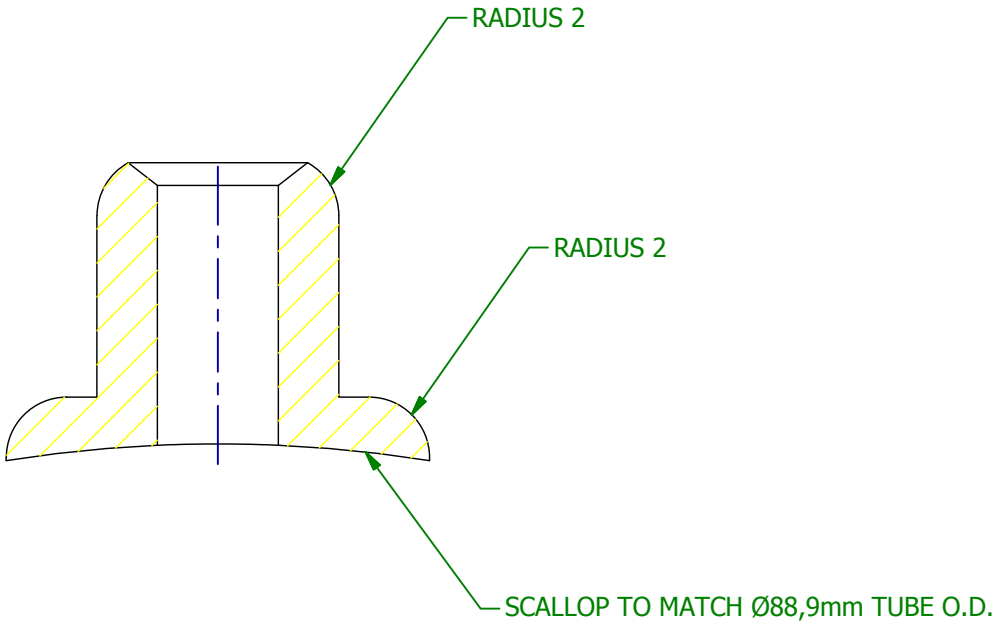
TOP VIEW




ISOMETRIC VIEW

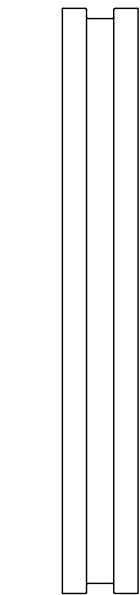


SIDE VIEW

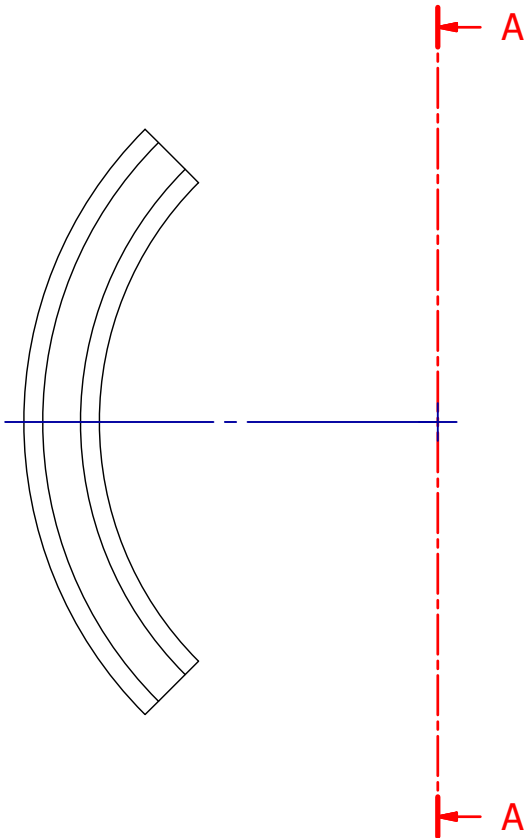


SIDE SECTION VIEW
A-A (4 : 1)

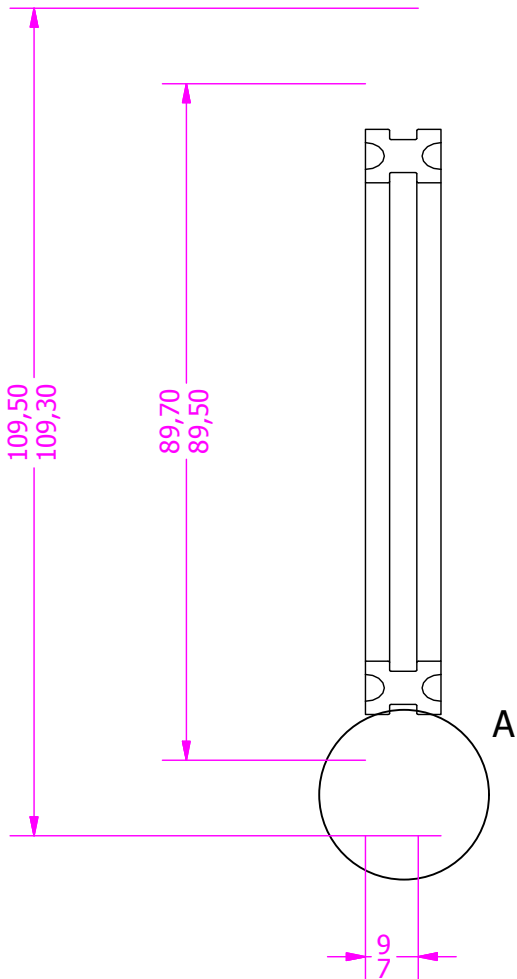
Title: ELECTRODE CONNECTOR					
Drawn by: P. SAVAGE	Projection: THIRD ANGLE			<div>Unless otherwise stated:</div> <div>Dimensional tolerance: X ± 0.5 mm</div> <div>X.X ± 0.3 mm</div> <div>X.XX ± 0.1 mm</div> <div>Angular tolerance: ± 0.5°</div> <div>Hole centres: ± 0.05 mm</div> <div>Surface finish: 1.6 microns</div> <div>Dimensions in mm □</div>	
Designed by: P. SAVAGE	Model file: Conductor_To_Electrode_Connector.ipt				
Checked by: N/A	Drawing file: GaborLens.idw				
Date: 5TH MARCH 2015	Version number: 1				
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS				
Material: COPPER	Sheet number: 18 / 28				
Remove all burrs	Number off: -				
Scale: DO NOT SCALE	Drawing number: PS-FETS-000167				
Sheet size: A2					
Notes: -					
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058					



SIDE VIEW

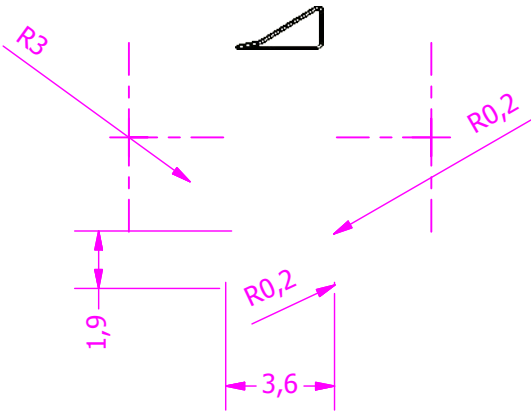


FACE VIEW

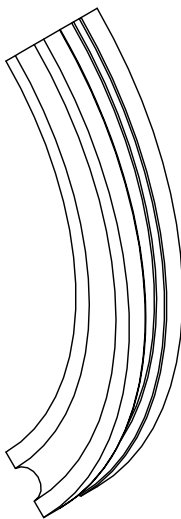


SIDE SECTION
A-A (1 : 1)

DETAIL SECTION VIEW
A (4 : 1)



NOTES:
1) ORDER TO MANUFACTURE WILL BE PLACED FOLLOWING
(MEASURED) CONFIRMATION OF VACUUM TUBE I.D. AND
CENTRAL ELECTRODE O.D.



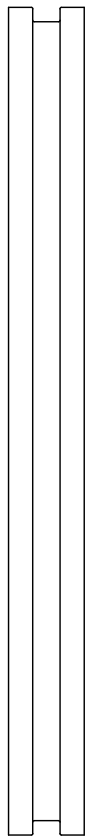
ISOMETRIC VIEW

Title: ISOLATING SPACER		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: Insulator_Ring_2.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	5TH MARCH 2015	Version number: 1
Manufactured by:	EXTERNAL MANUFACTURER	Project: GABOR LENS
Material:	ALUMINIUM OXIDE	Sheet number: 19 / 28
Remove all burrs		Number off: -
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000168
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

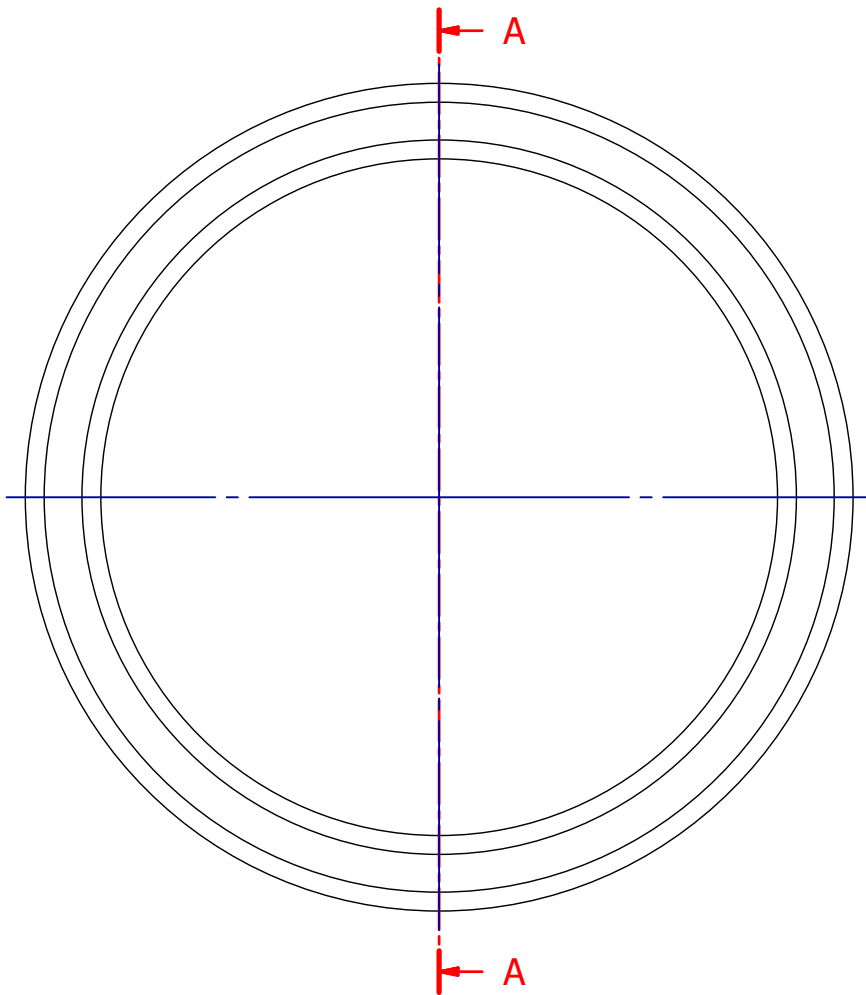
Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

- NOTES:**
- 1) SPLIT RING INTO FOUR APPROXIMATELY EQUAL PIECES.
 - 2) REMOVE SHARP EDGES.
 - 3) CIRCULAR GROOVES ARE ONLY TO INCREASE ELECTRICAL PATH LENGTH.

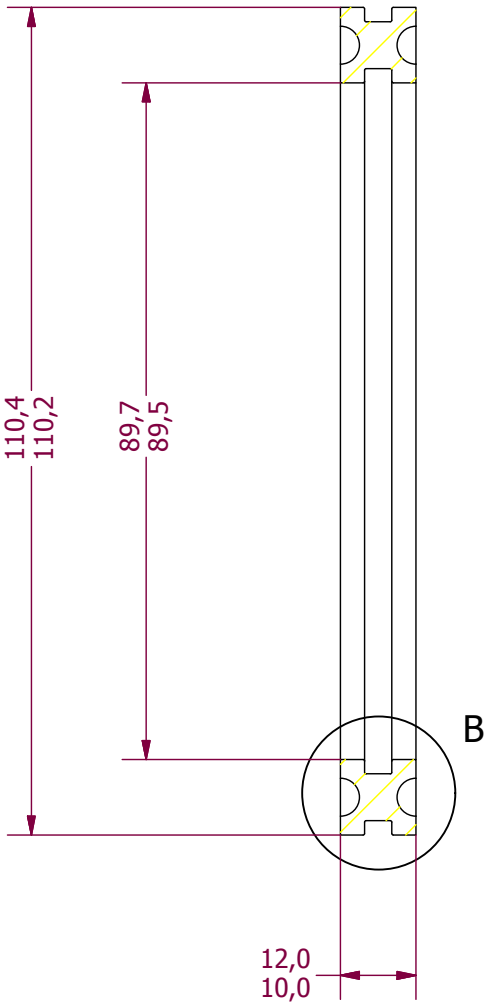
SIDE VIEW



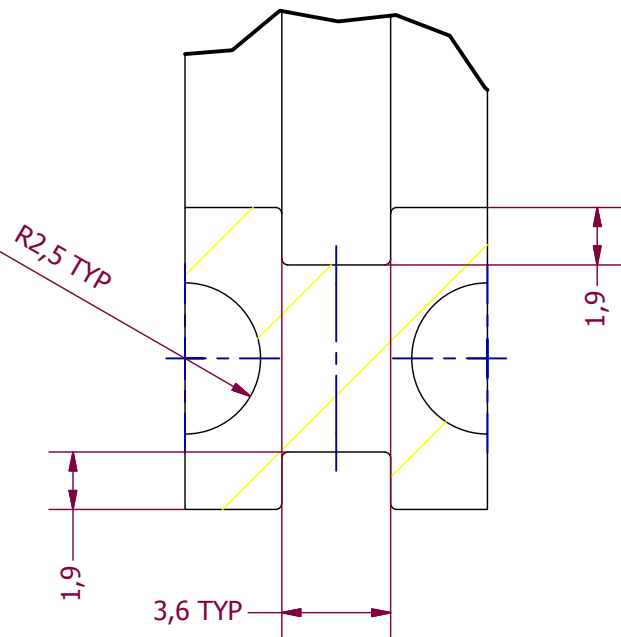
FACE VIEW



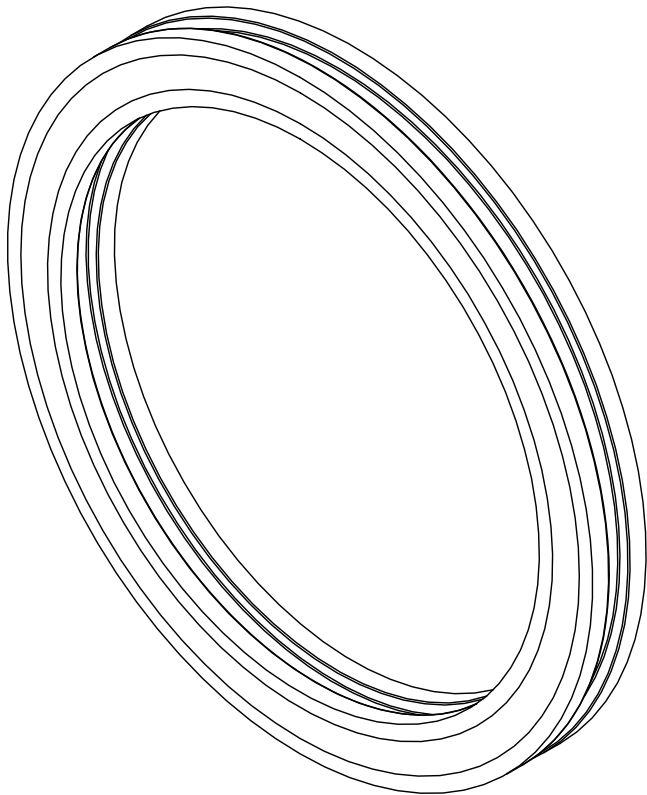
SIDE SECTION
A-A (1 : 1)



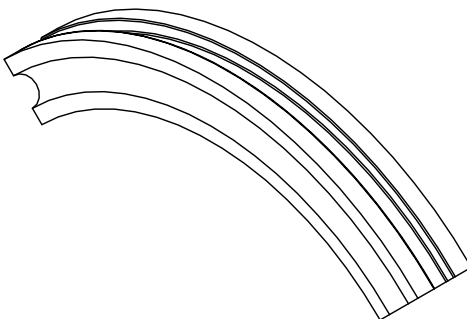
DETAIL SECTION VIEW
B (4 : 1)



ISOMETRIC VIEW
OF COMPLETE RING

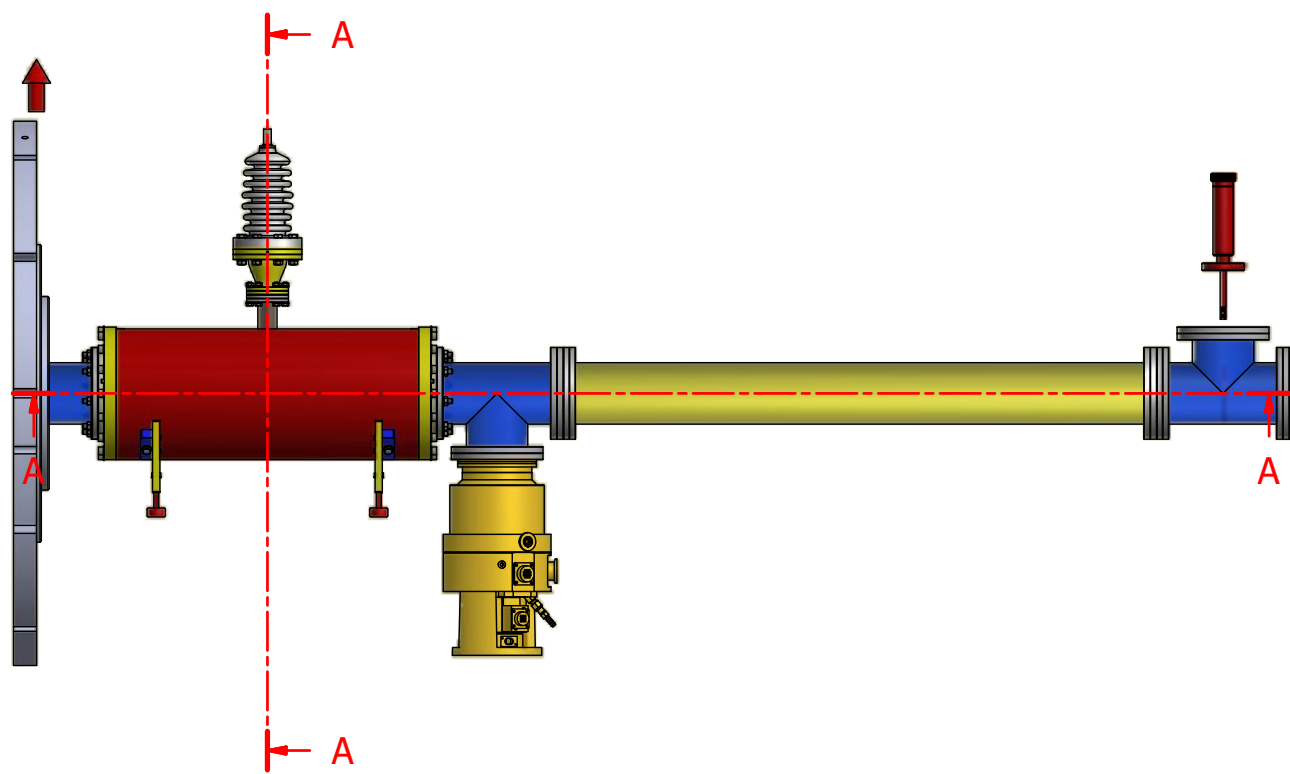
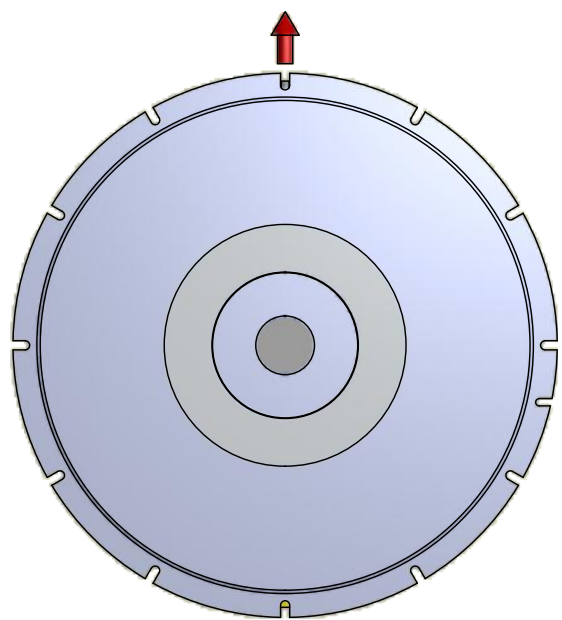


ISOMETRIC VIEW
OF ONE 'QUARTER' PIECE

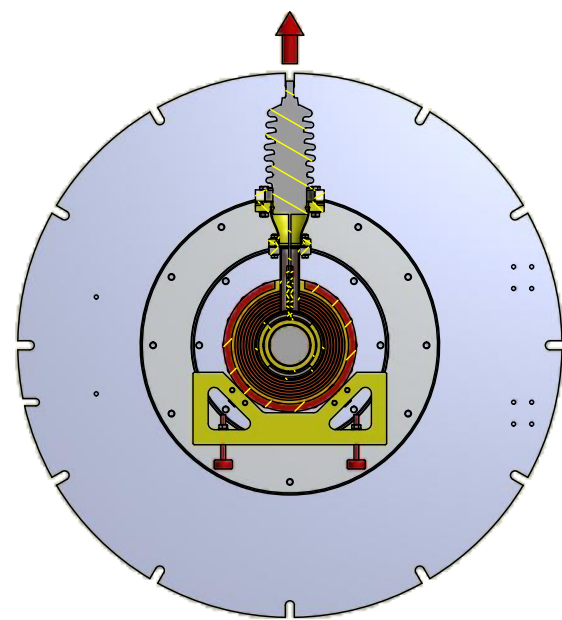
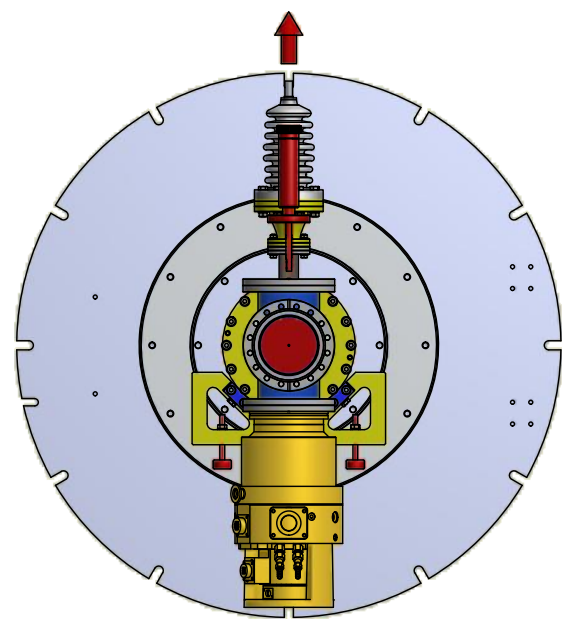


Title: ISOLATING SPACER		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: Insulator_Ring_2X4.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	13 APRIL 2015	Version number: REV B
Manufactured by:	EXTERNAL MANUFACTURER	Project: GABOR LENS
Material:	MACOR	Sheet number: 20 / 28
Remove all burrs		Number off: 1 RING SPLIT INTO 4 PIECES
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000168 rev B
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

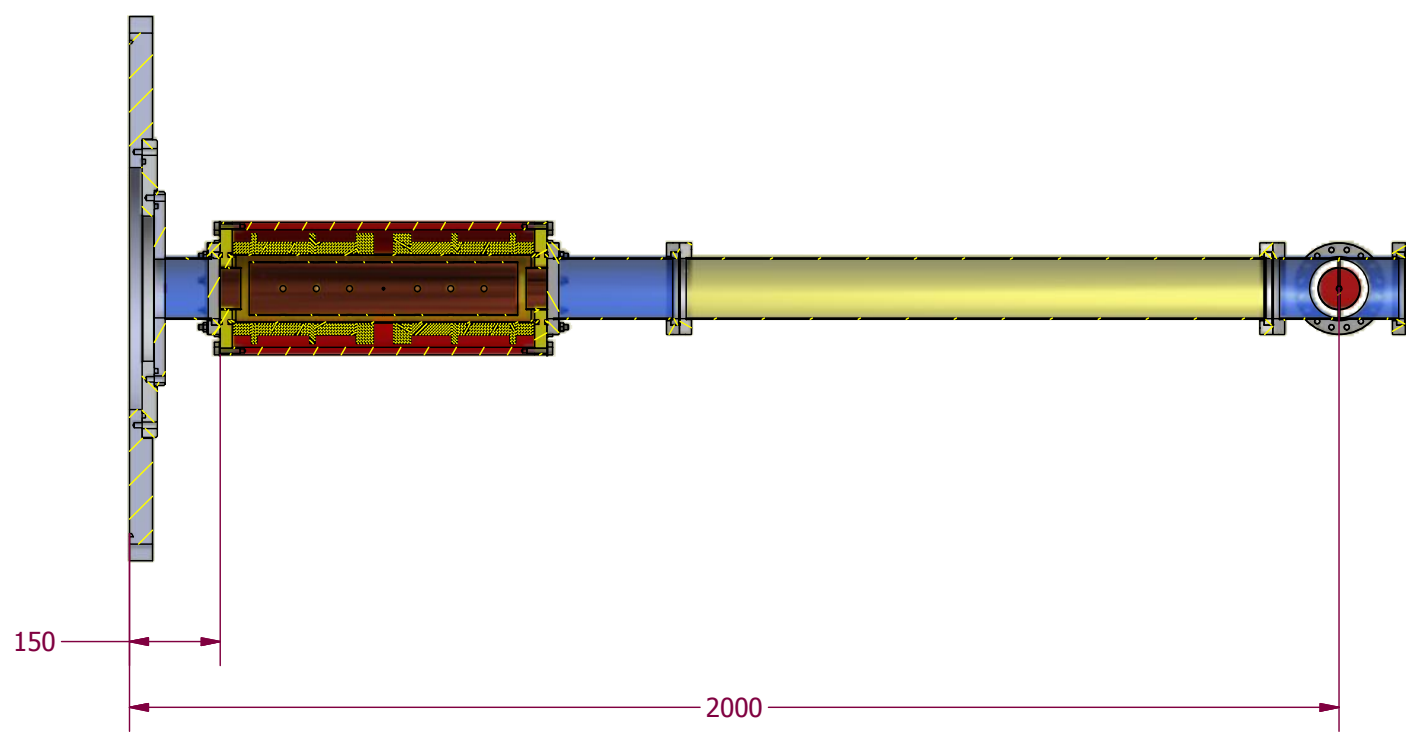
Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



A-A (0.08 : 1)

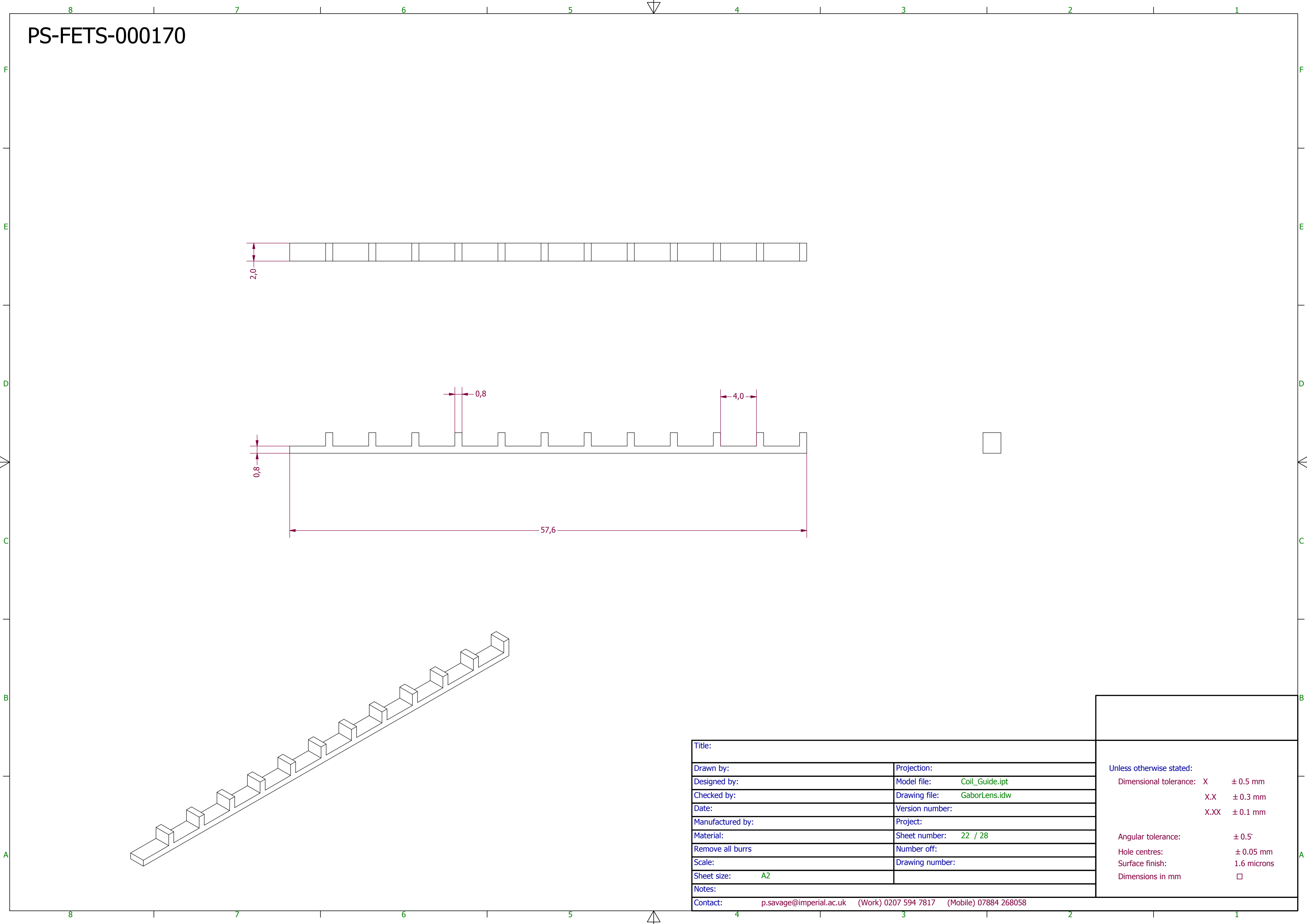


A-A (0.08 : 1)



Title:	
Drawn by:	Projection:
Designed by:	Model file: Gabor_Lens_Assembly.iam
Checked by:	Drawing file: GaborLens.idw
Date:	Version number:
Manufactured by:	Project:
Material:	Sheet number: 21 / 28
Remove all burrs	Number off:
Scale:	Drawing number:
Sheet size: A2	
Notes:	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



PS-FETS-000171

ITEM No	DRAWING No. / CATALOGUE No.	TITLE / DESCRIPTION	QTY	REMARKS
1	PS-FETS-000172	H.V. JACKET TUBE	1	AALCO, ALU TUBE, 6082T6, 5" O.D. X 10 SWG WALL (3.25mm)
2	PS-FETS-000173	H.V. JACKET TOP FLANGE	1	ALU ALLOY
3	PS-FETS-000174	H.V. JACKET BOTTOM FLANGE	1	ALU ALLOY
4	RS 527-381	M4 S/STEEL WASHER	12	STANDARD PART
5	RS 281-041	M4 X 16 S/STEEL CAPHEAD SCREW	8	STANDARD PART
6	PS-FETS-000175	H.V. JACKET TOP FLANGE CABLE SEAL	1	ALU ALLOY
7	RS 281-035	M4 X 12 S/STEEL CAPHEAD SCREW	4	STANDARD PART
8	RS 159-1490	O RING 3mm CORD X 118mm O.D.	1	BONDED CORD - TO BE PRODUCED
9	RS 159-1490	O RING 3mm CORD X 16,3mm O.D.	1	BONDED CORD - TO BE PRODUCED
10	PS-FETS-000176	CONICAL REDUCER NIPPLE MODIFICATION	1	MODIFICATION TO STANDARD PART - ADDITION OF 4 TAPPED HOLES

ISOMETRIC VIEW

END VIEW

SIDE VIEW

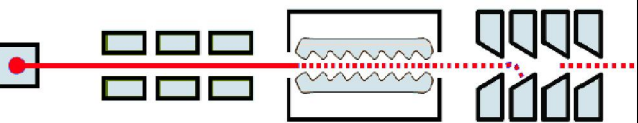
SIDE VIEW

SIDE SECTION VIEW
B-B (1 : 4)

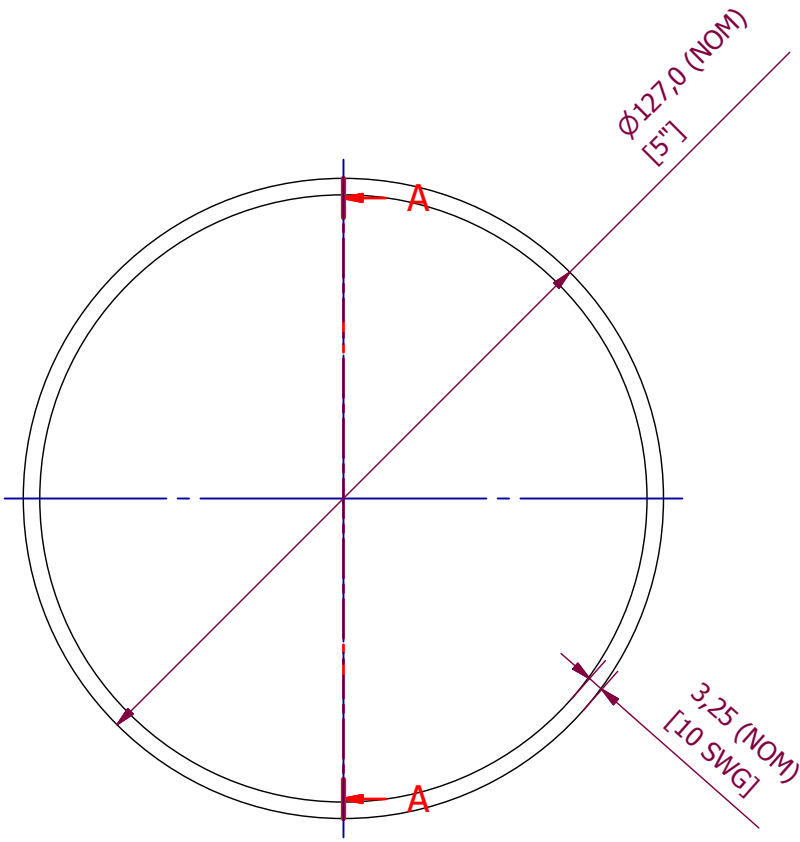
SIDE SECTION VIEW
A-A (1 : 2)

- NOTES:**
- 1) INSIDE OF TUBE TO BE SPRAY PAINTED WITH 3M 1602 SEALER OR SIMILAR INSULATING COATING
 - 2) MAINTAIN GOOD ELECTRICAL CONTACT BETWEEN TUBE ASSEMBLY AND CONICAL REDUCER NIPPLE
 - 3) CABLE TO BE FED THROUGH TOP FLANGE BEFORE BEING TERMINATED

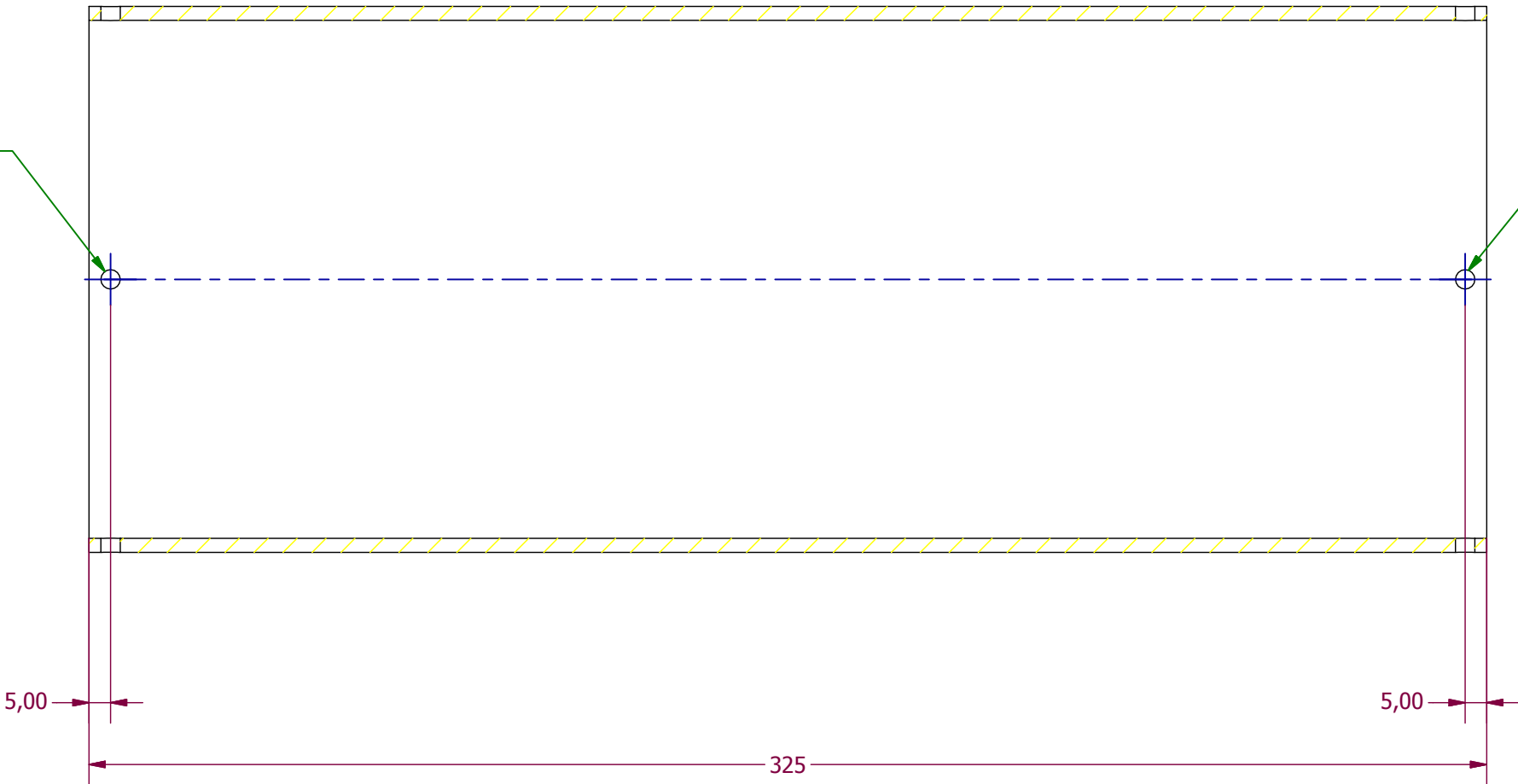
Title: H.V. JACKET ASSEMBLY	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: HV Outer jacket.iam
Checked by: N/A	Drawing file: GaborLens.idw
Date: 29 MAY 2015	Version number: B
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: STATED PER PART	Sheet number: 23 / 28
Remove all burrs	Number off: STATED PER PART
Scale: DO NOT SCALE	Drawing number: PS-FETS-000171
Sheet size: A2	
Notes:	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	



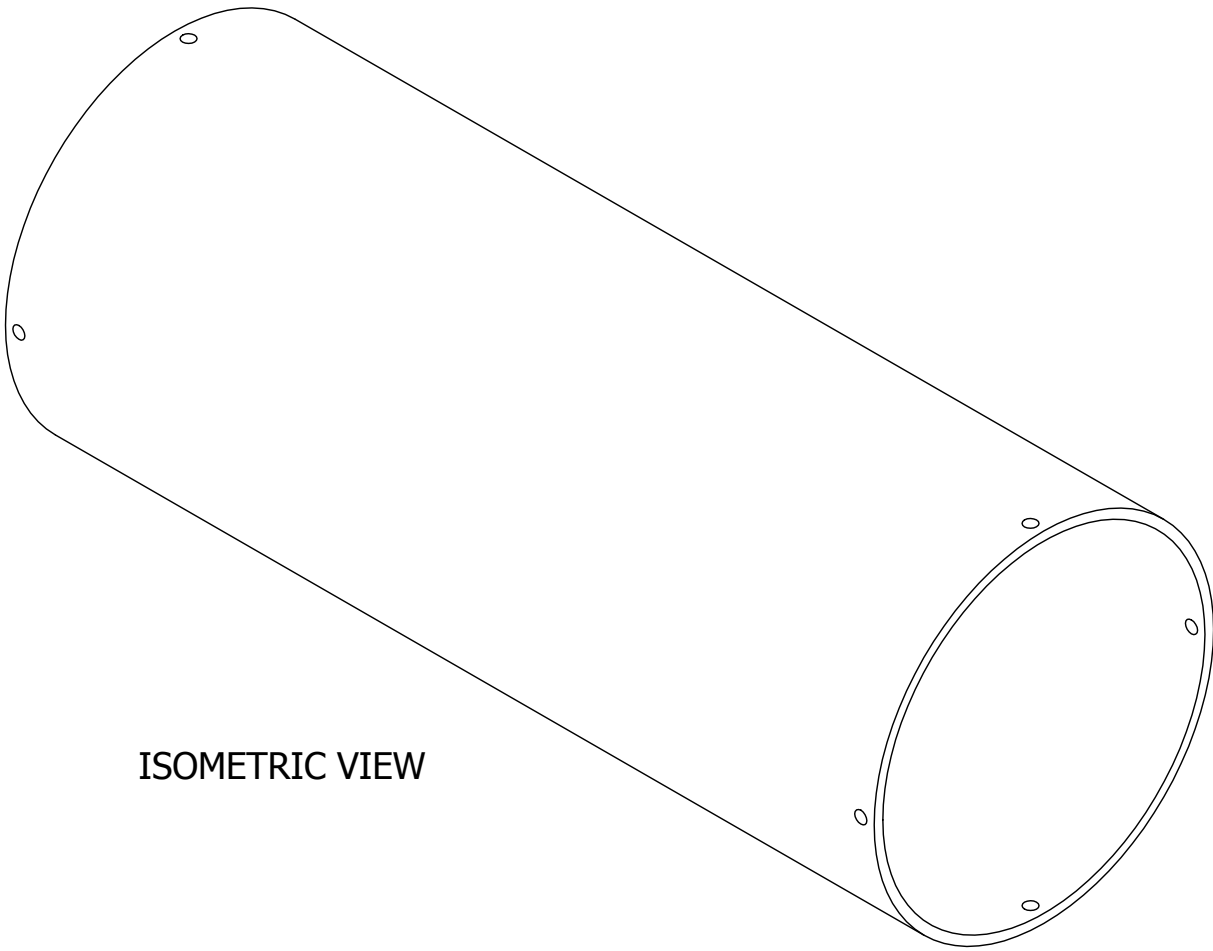
Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



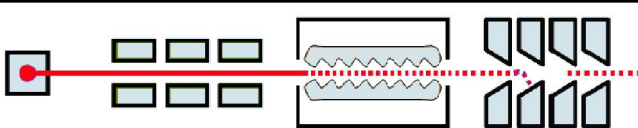
END VIEW



SIDE SECTION VIEW
A-A (1 : 1.5)

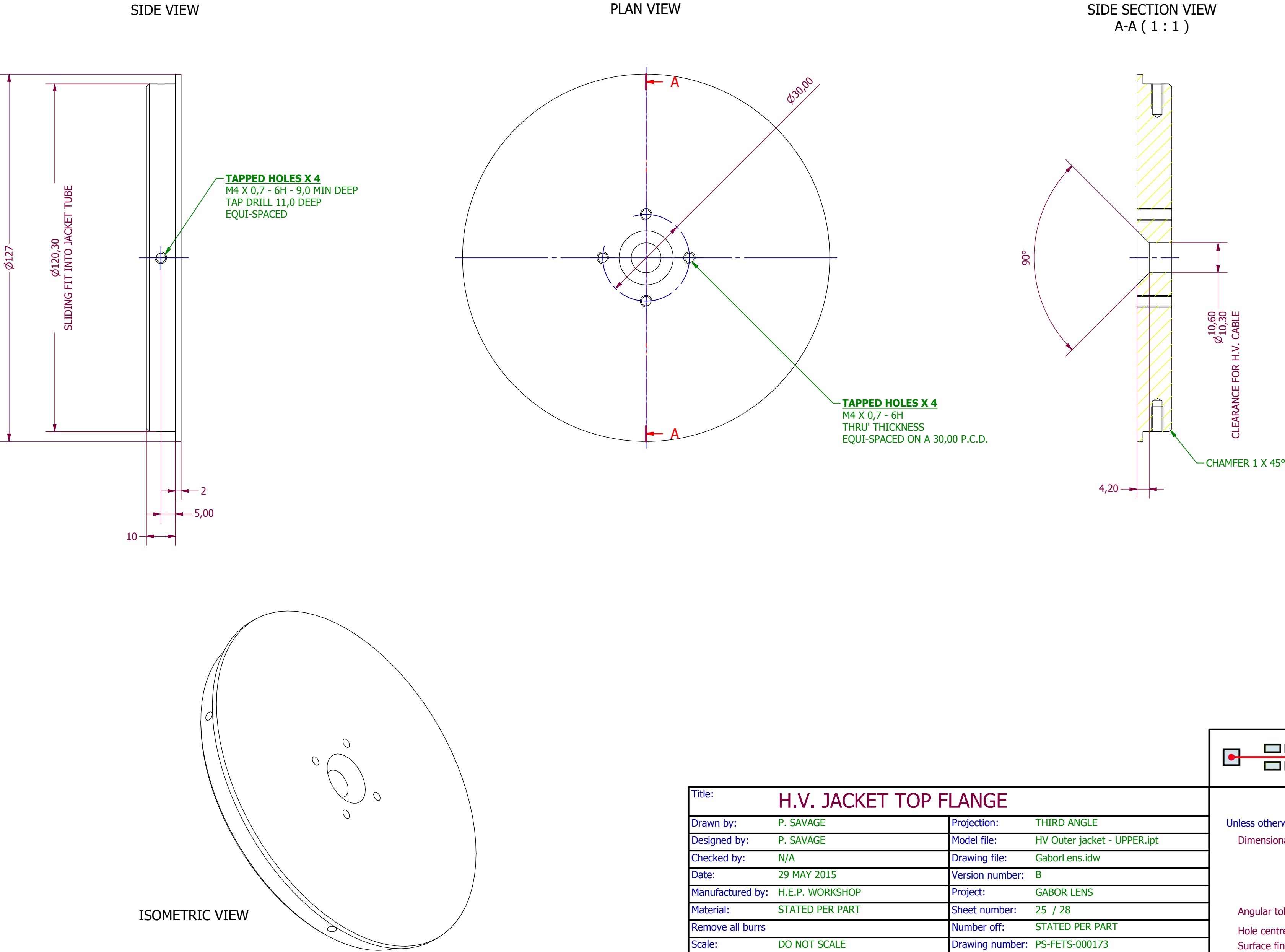


ISOMETRIC VIEW



Title: H.V. JACKET TUBE	
Drawn by: P. SAVAGE	Projection: THIRD ANGLE
Designed by: P. SAVAGE	Model file: HV Outer jacket.ipt
Checked by: N/A	Drawing file: GaborLens.idw
Date: 29 MAY 2015	Version number: B
Manufactured by: H.E.P. WORKSHOP	Project: GABOR LENS
Material: STATED PER PART	Sheet number: 24 / 28
Remove all burrs	Number off: STATER PER PART
Scale: DO NOT SCALE	Drawing number: PS-FETS-000172
Sheet size: A2	
Notes:	
Contact: p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

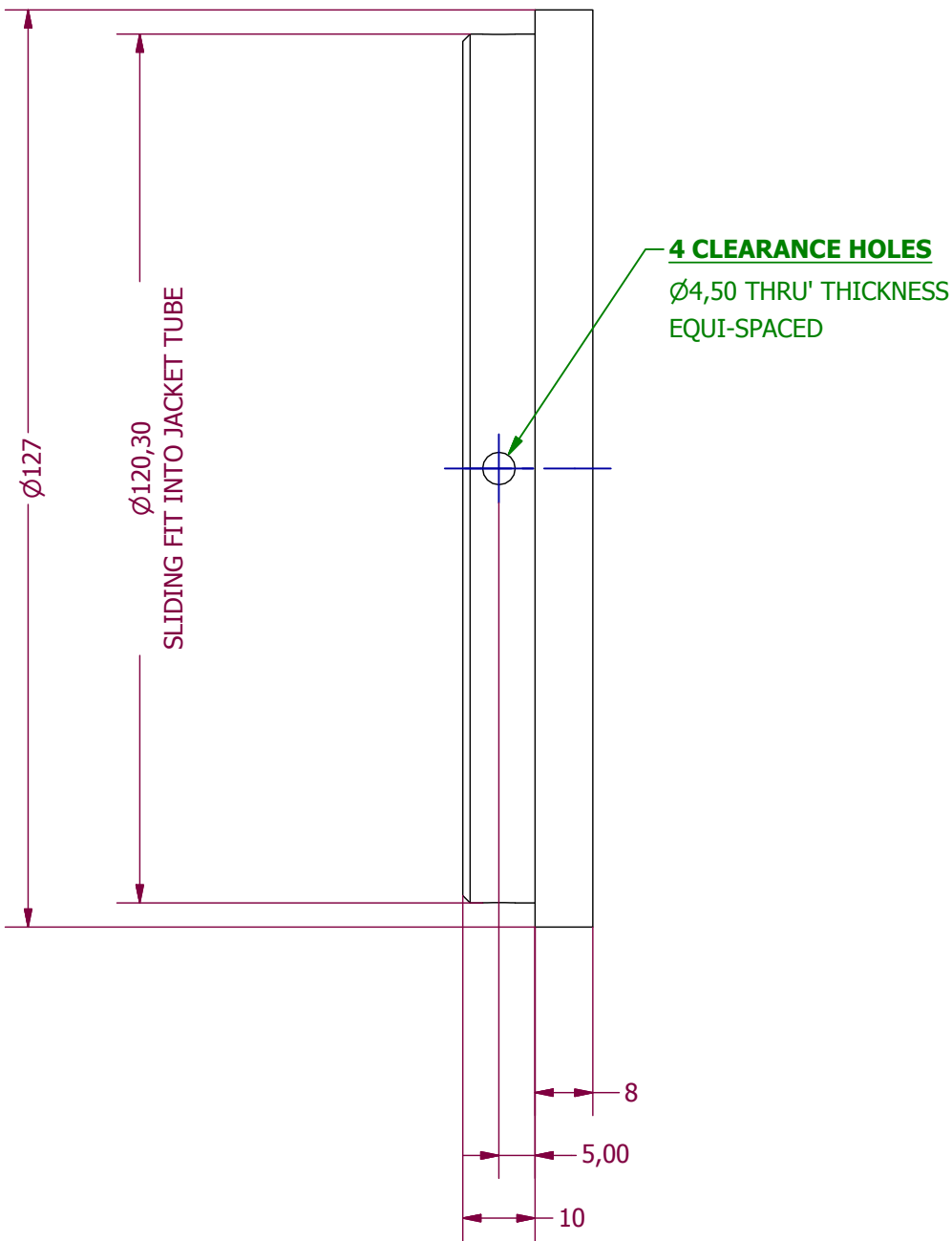
Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□



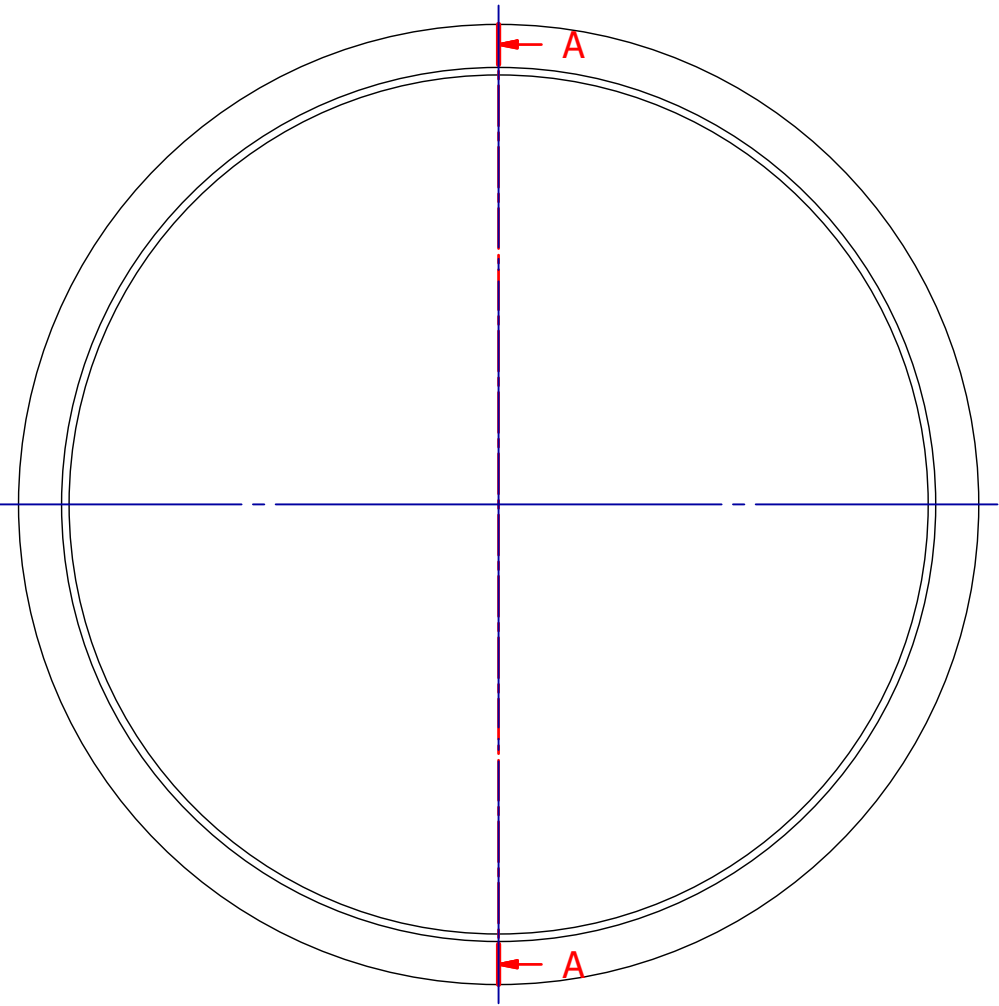
Title: H.V. JACKET TOP FLANGE		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: HV Outer jacket - UPPER.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	29 MAY 2015	Version number: B
Manufactured by:	H.E.P. WORKSHOP	Project: GABOR LENS
Material:	STATED PER PART	Sheet number: 25 / 28
Remove all burrs		Number off: STATED PER PART
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000173
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

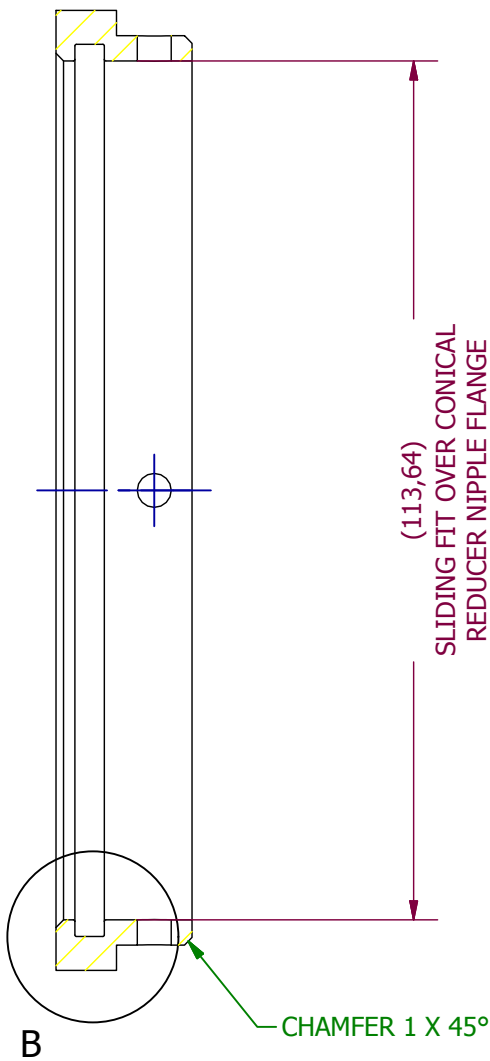
SIDE VIEW



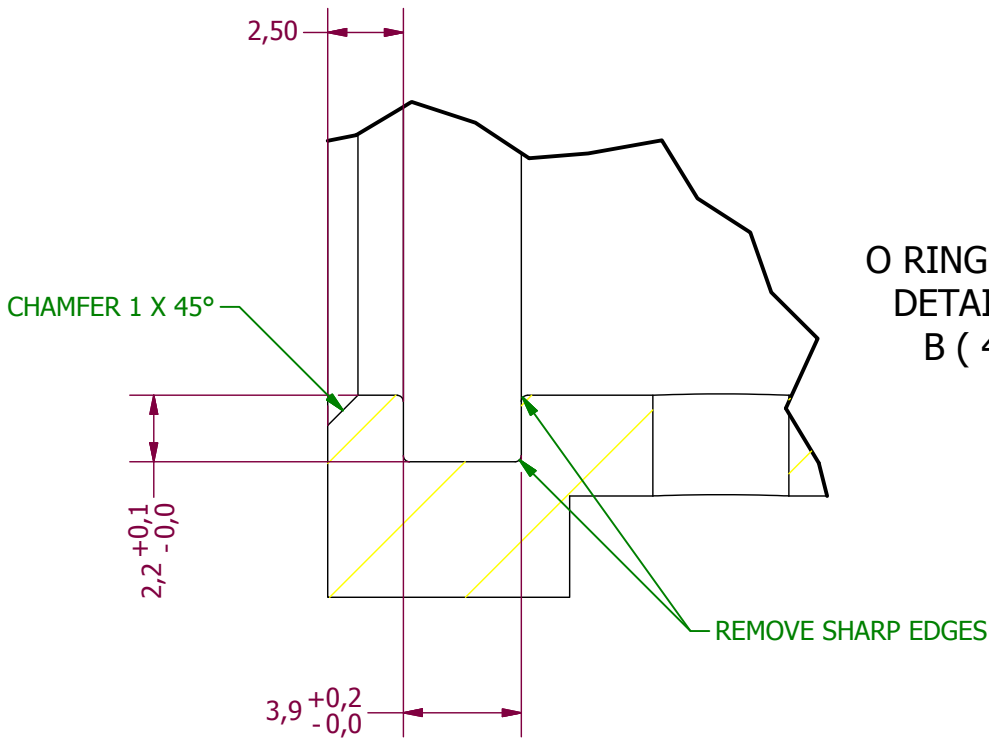
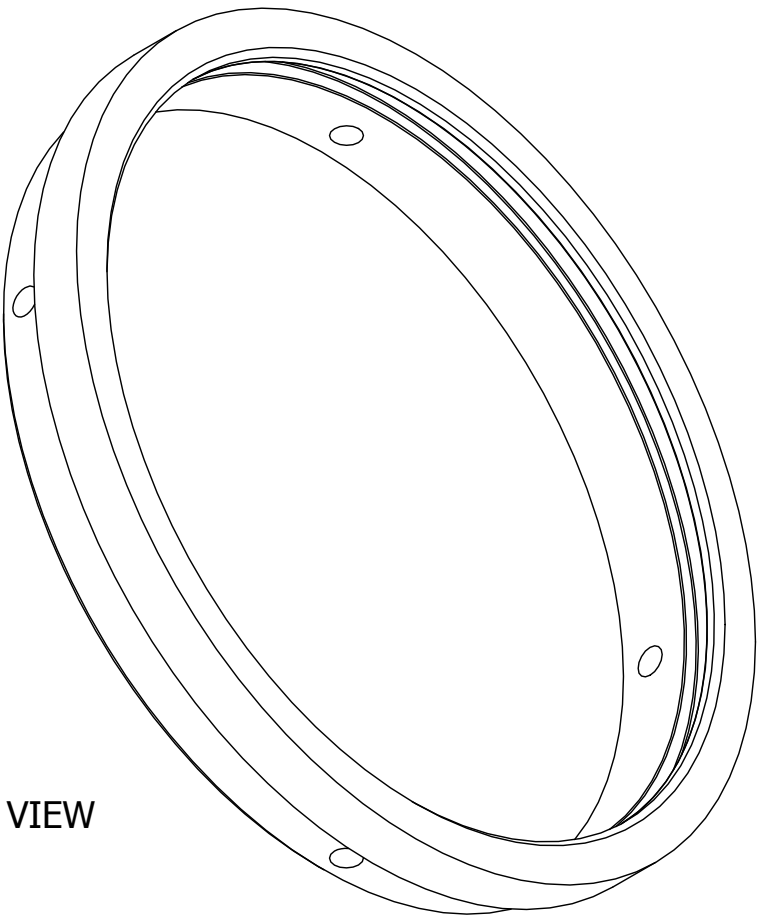
PLAN VIEW



SIDE SECTION VIEW
A-A (1 : 1)



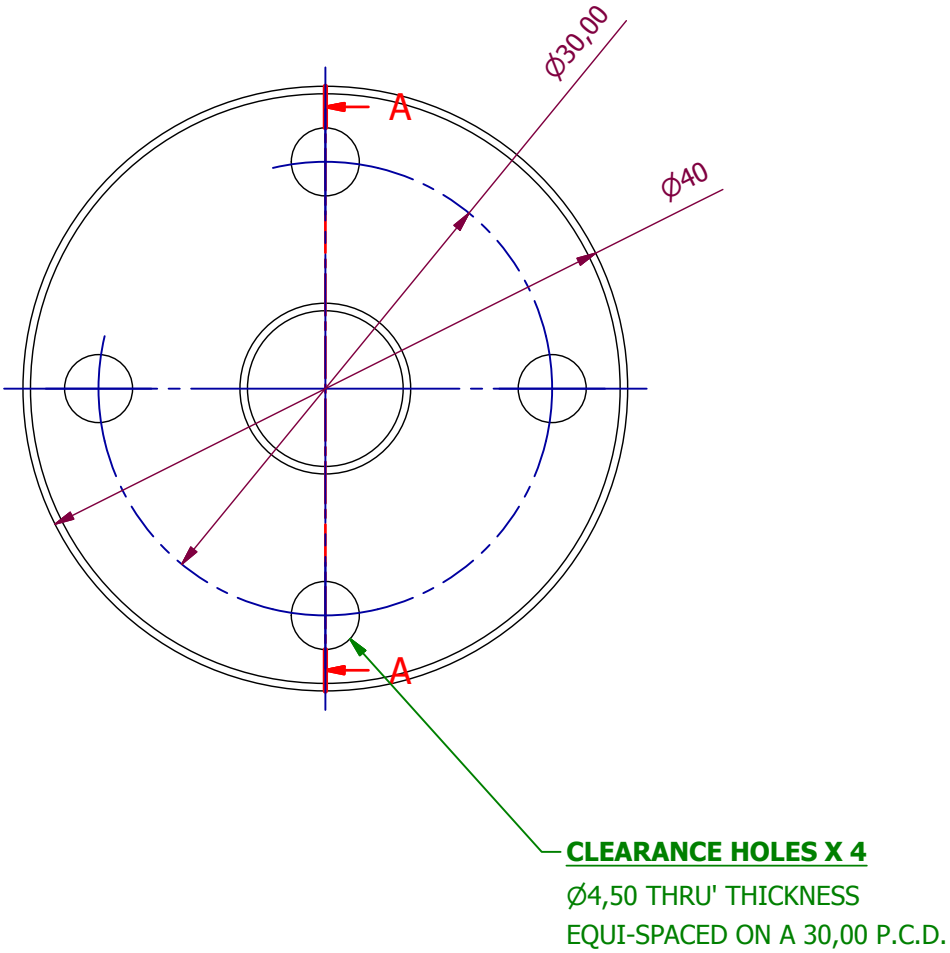
ISOMETRIC VIEW



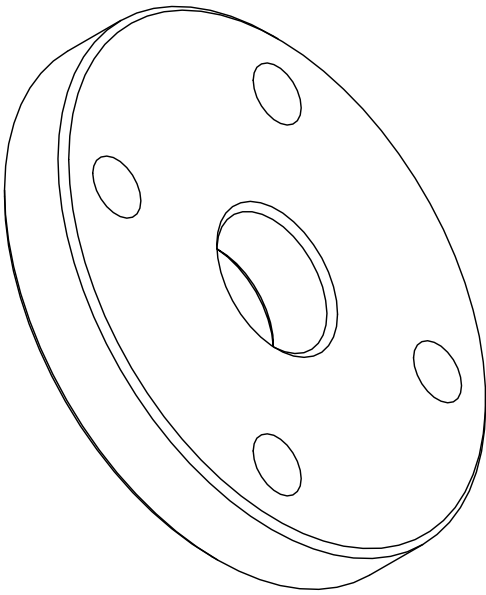
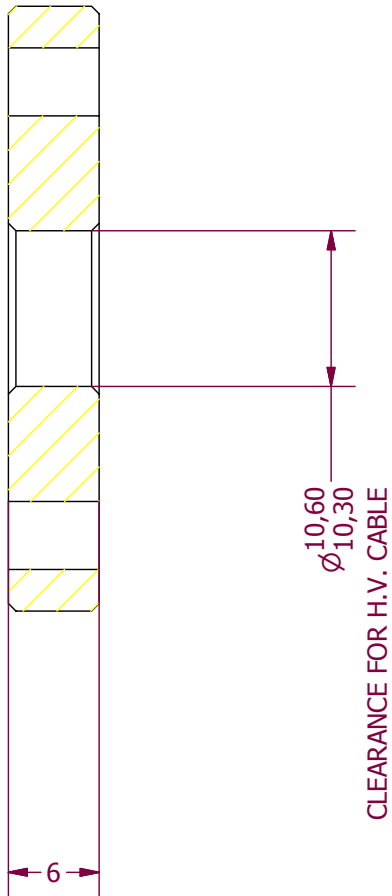
O RING GROOVE
DETAIL VIEW
B (4 : 1)

Title:		H.V. JACKET BOTTOM FLANGE		<div><div>Unless otherwise stated:</div><div><div>Dimensional tolerance:</div><div>X</div><div>± 0.5 mm</div></div><div><div>X.X</div><div>± 0.3 mm</div></div><div><div>X.XX</div><div>± 0.1 mm</div></div><div><div>Angular tolerance:</div><div></div><div>± 0.5°</div></div><div><div>Hole centres:</div><div></div><div>± 0.05 mm</div></div><div><div>Surface finish:</div><div></div><div>1.6 microns</div></div><div><div>Dimensions in mm</div><div></div><div>□</div></div></div>	
Drawn by:	P. SAVAGE	Projection:	THIRD ANGLE		
Designed by:	P. SAVAGE	Model file:	HV Outer jacket - LOWER.ipt		
Checked by:	N/A	Drawing file:	GaborLens.idw		
Date:	29 MAY 2015	Version number:	B		
Manufactured by:	H.E.P. WORKSHOP	Project:	GABOR LENS		
Material:	STATED PER PART	Sheet number:	26 / 28		
Remove all burrs		Number off:	STATED PER PART		
Scale:	DO NOT SCALE	Drawing number:	PS-FETS-000174		
Sheet size:	A2				
Notes:		-			
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058				

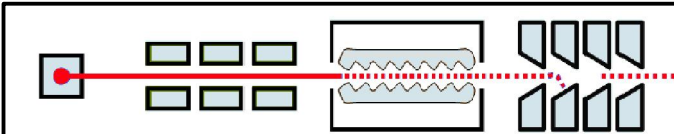
SIDE VIEW



SIDE SECTION
A-A (2 : 1)



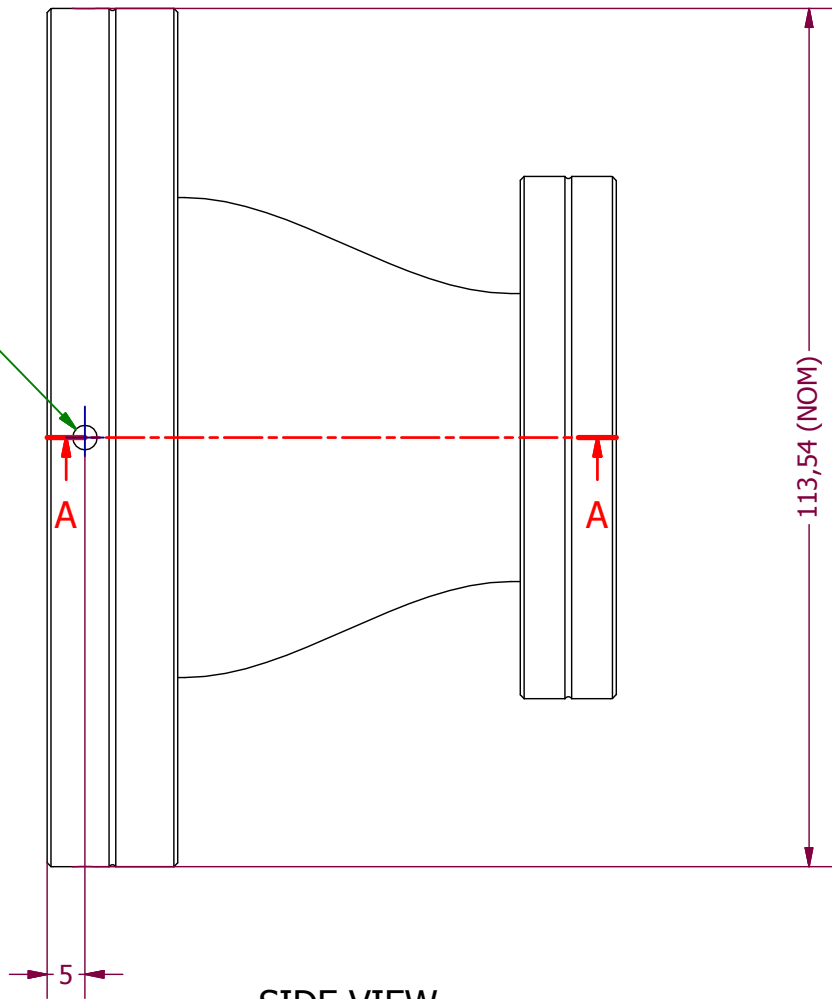
ISOMETRIC VIEW



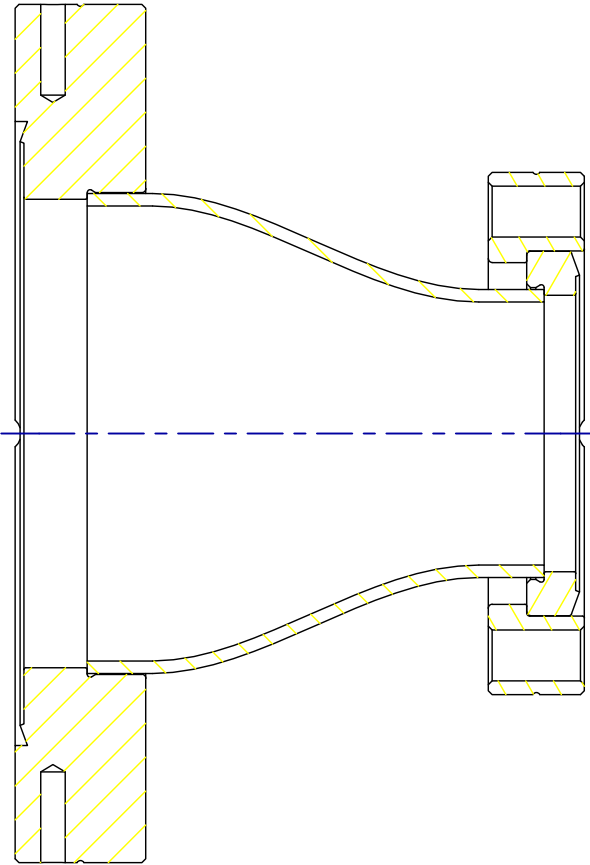
Title: H.V. JACKET TOP FLANGE CABLE SEAL		
Drawn by:	P. SAVAGE	Projection: THIRD ANGLE
Designed by:	P. SAVAGE	Model file: HV Outer jacket - Cable Seal.ipt
Checked by:	N/A	Drawing file: GaborLens.idw
Date:	29 MAY 2015	Version number: B
Manufactured by:	H.E.P. WORKSHOP	Project: GABOR LENS
Material:	STATED PER PART	Sheet number: 27 / 28
Remove all burrs		Number off: STATED PER PART
Scale:	DO NOT SCALE	Drawing number: PS-FETS-000175
Sheet size:	A2	
Notes:		
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058	

Unless otherwise stated:		
Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□

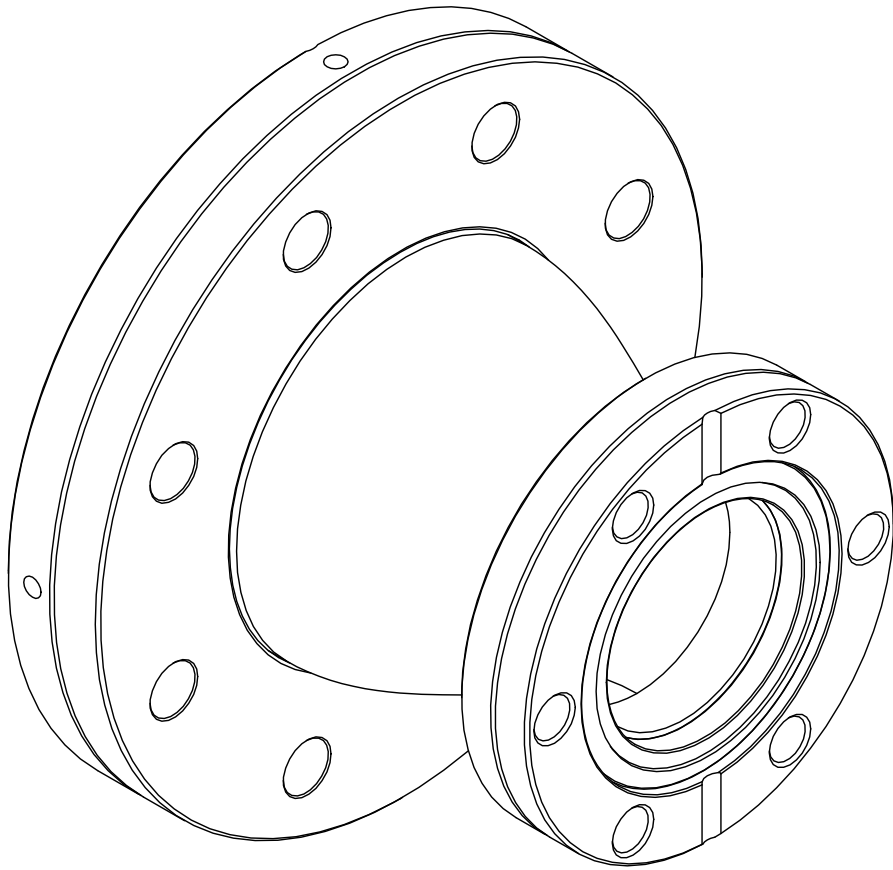
TAPPED HOLES X 4
M4 X 0,7 - 6H - 10,0 MIN DEEP
TAP DRILL 12,0 DEEP
EQUI-SPACED AROUND CIRCUMFERENCE



SIDE VIEW



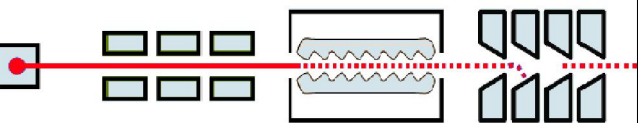
SIDE SECTION VIEW
A-A (1 : 1)



ISOMETRIC VIEW

Title: CONICAL REDUCER NIPPLE MODIFICATION

Drawn by:	P. SAVAGE	Projection:	THIRD ANGLE
Designed by:	P. SAVAGE	Model file:	crn450x275.iam
Checked by:	N/A	Drawing file:	GaborLens.idw
Date:	29 MAY 2015	Version number:	B
Manufactured by:	H.E.P. WORKSHOP	Project:	GABOR LENS
Material:	STATED PER PART	Sheet number:	28 / 28
Remove all burrs		Number off:	STATED PER PART
Scale:	DO NOT SCALE	Drawing number:	PS-FETS-000176
Sheet size:	A2		
Notes:			
Contact:	p.savage@imperial.ac.uk (Work) 0207 594 7817 (Mobile) 07884 268058		



Unless otherwise stated:

Dimensional tolerance:	X	± 0.5 mm
	X.X	± 0.3 mm
	X.XX	± 0.1 mm
Angular tolerance:		± 0.5°
Hole centres:		± 0.05 mm
Surface finish:		1.6 microns
Dimensions in mm		□