

D

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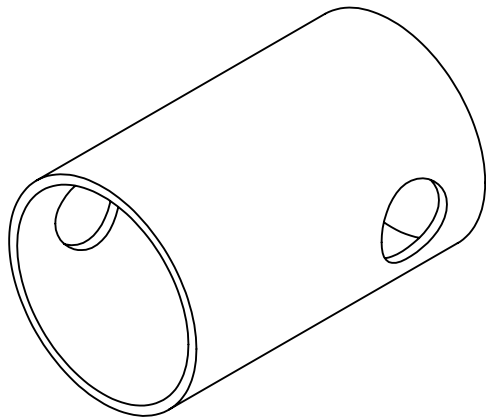
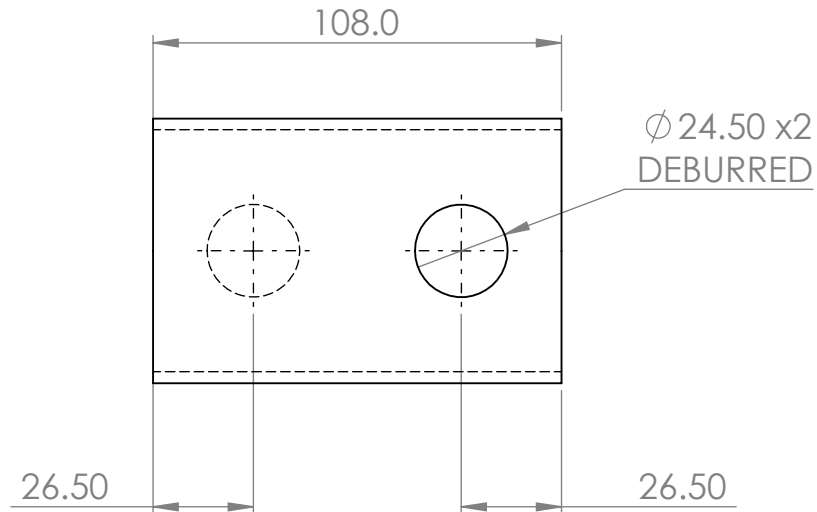
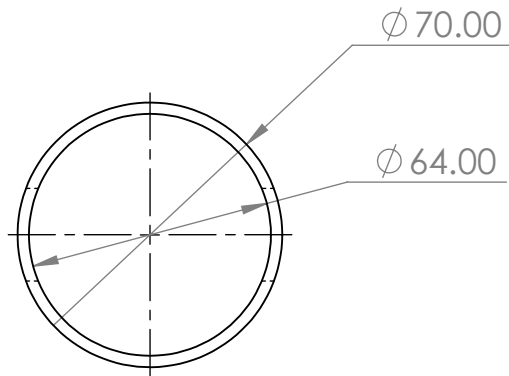
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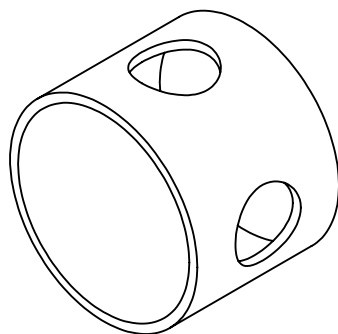
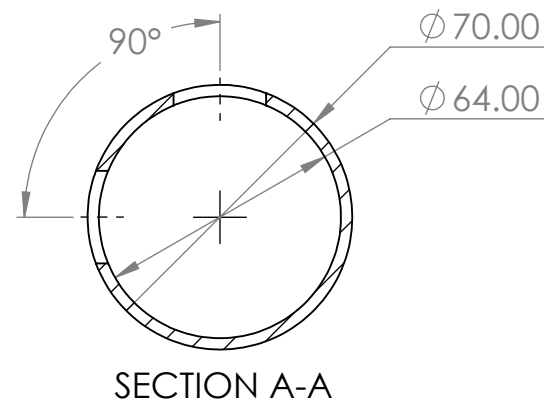
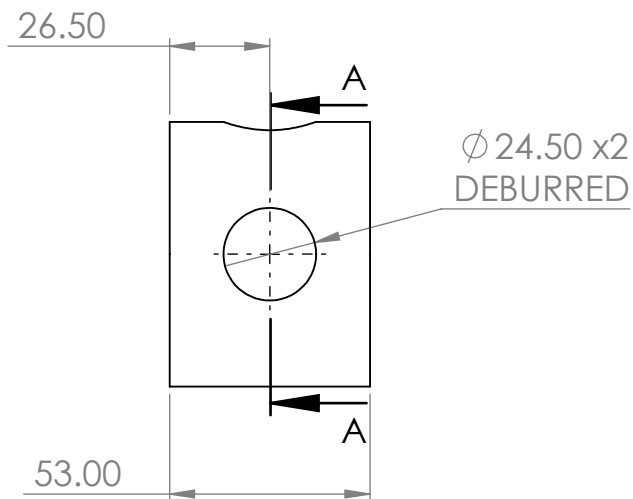
C

B

A



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Shell Tube		
Tolerances:					
XX.0mm		±0.5mm	DWG NO. 1		
XX.00mm		±0.1mm			
XX°		±0.1°			
MATERIAL:			A4		
Acrylic, Colourless			3rd Angle Projection	SCALE:1:2	SHEET 1 OF 1



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Head Tube 1		
Tolerances:					
XX.0mm		±0.5mm	DWG NO. 2		
XX.00mm		±0.1mm			
XX°		±0.1°			
MATERIAL:			A4		
Acrylic, Colourless			3rd Angle Projection		SHEET 1 OF 1

D

D

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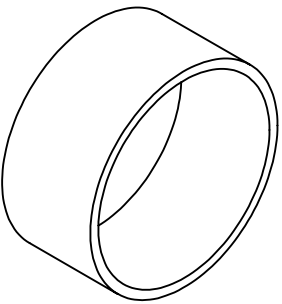
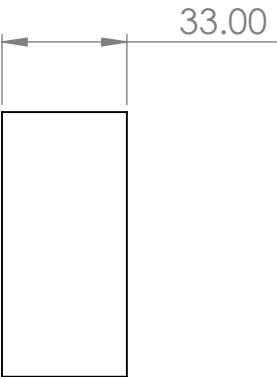
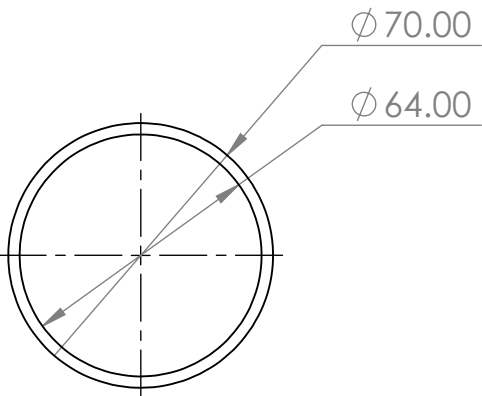
C

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B

A

A



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES Tolerances: XX.0mm ±0.5mm XX.00mm ±0.1mm XX° ±0.1° MATERIAL: Acrylic, Colourless			TITLE: Head Tube 2		
			DWG NO. 3		A4
			3rd Angle Projection		SHEET 1 OF 1

D

C

B

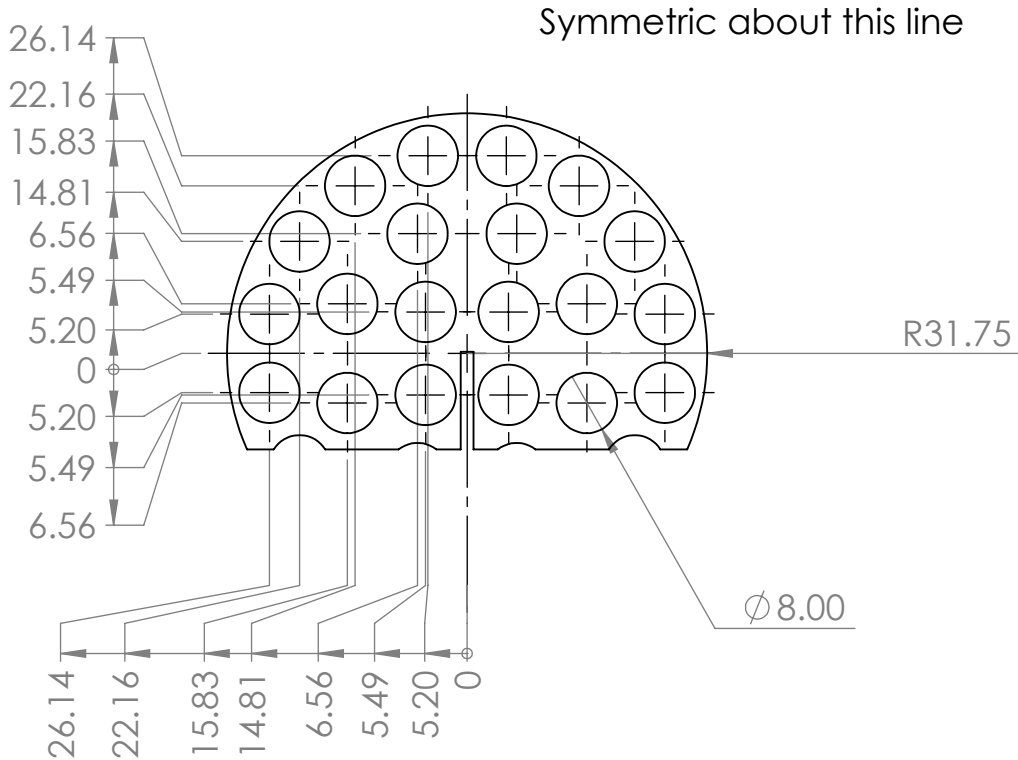
A

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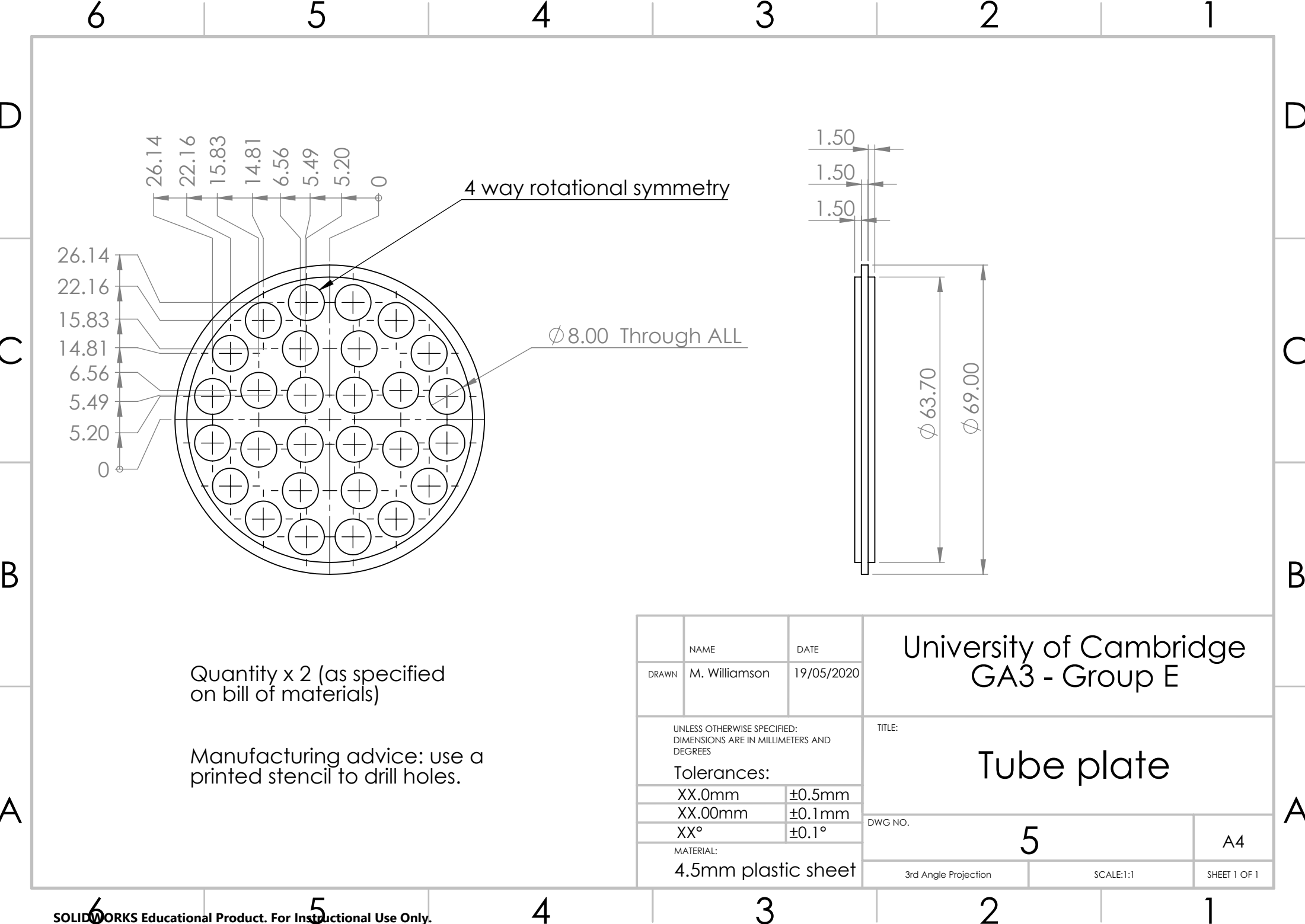
A



Quantity x 7 (as specified
on bill of materials)

Manufacturing advice: use a
printed stencil to drill holes.

	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	M. Williamson	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Baffle plate		
Tolerances:					
XX.0mm	±0.5mm				
XX.00mm	±0.1mm				
XX°	±0.1°				
MATERIAL:			DWG NO.		
1.5mm plastic sheet			4		A4
			3rd Angle Projection		SHEET 1 OF 1
			SCALE:1:1		

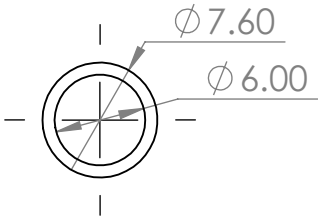
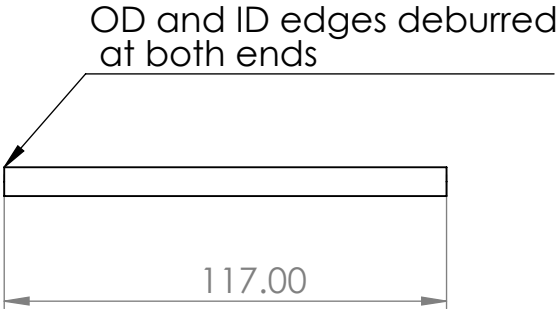
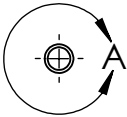


Quantity x 2 (as specified on bill of materials)

Manufacturing advice: use a printed stencil to drill holes.

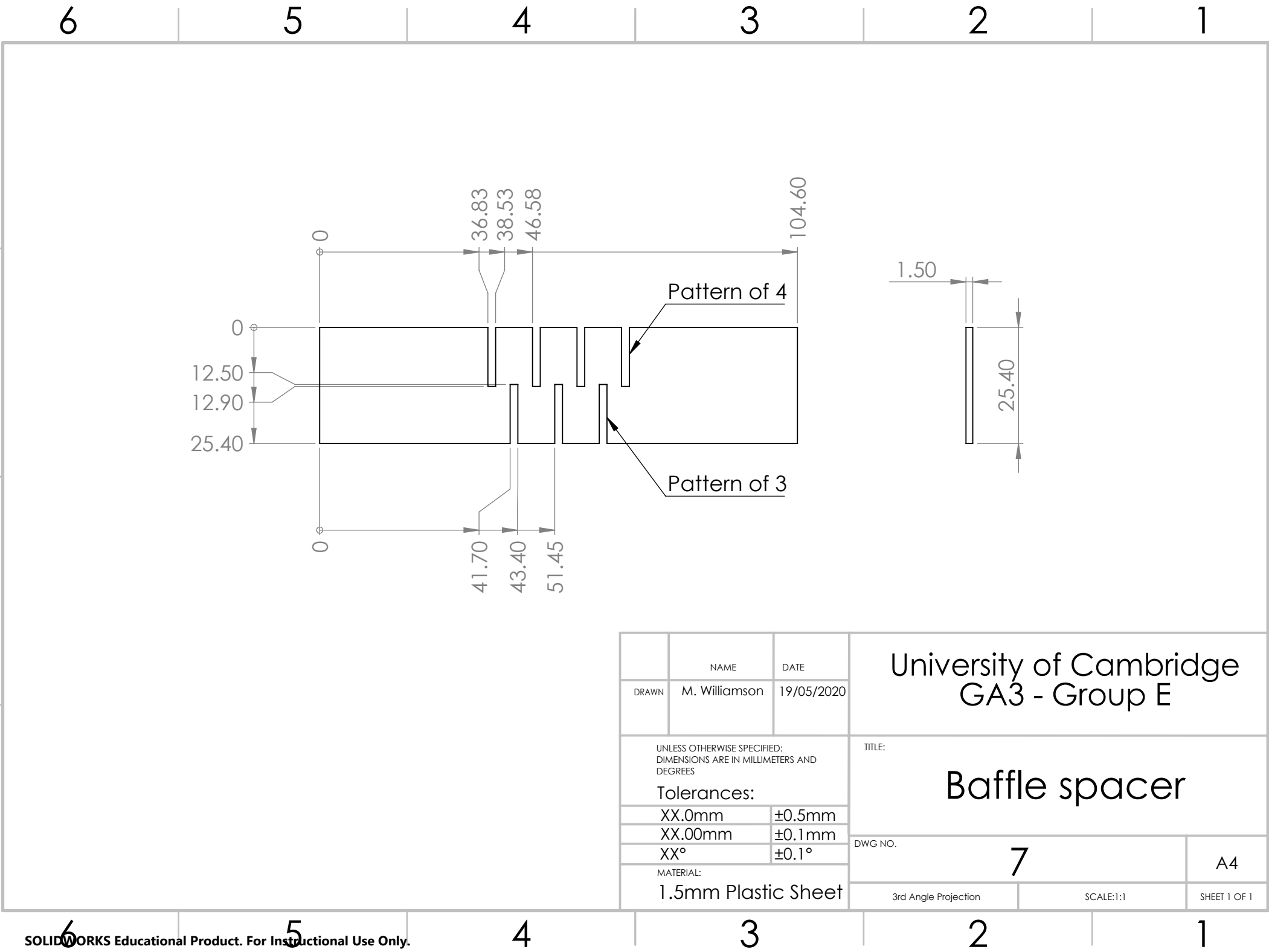
	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	M. Williamson	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Tube plate		
Tolerances:					
XX.0mm		±0.5mm	DWG NO. 5		A4
XX.00mm		±0.1mm			
XX°		±0.1°			
MATERIAL: 4.5mm plastic sheet			3rd Angle Projection		SHEET 1 OF 1
			SCALE:1:1		

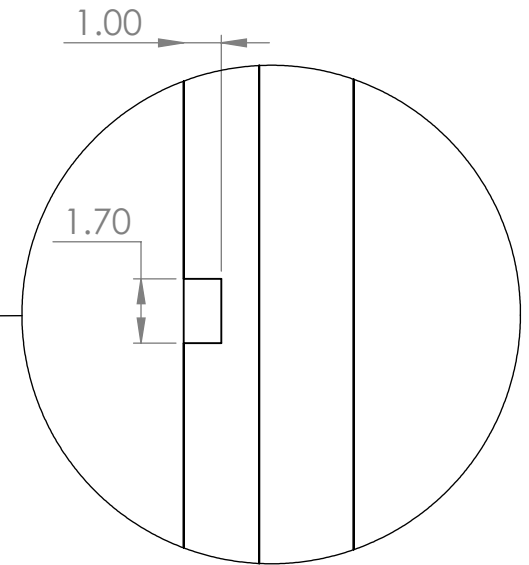
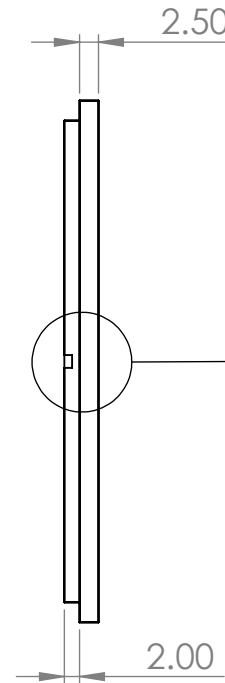
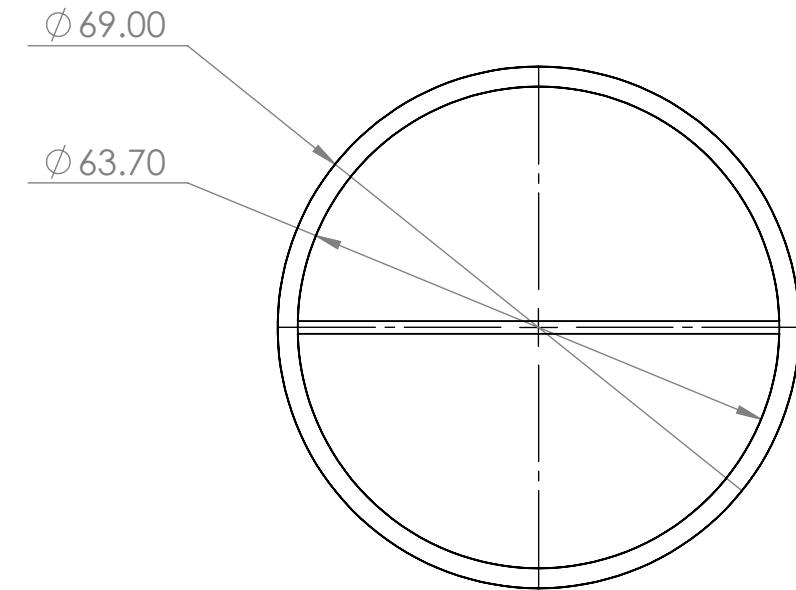
Quantity x 28 (as specified on bill of materials)



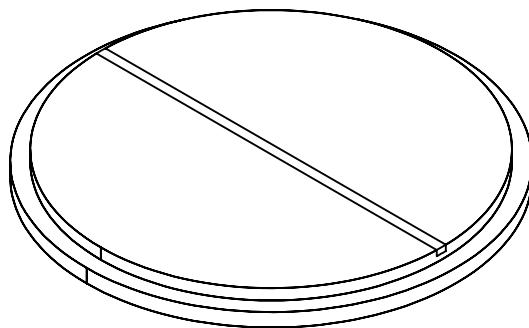
DETAIL A
SCALE 2 : 1

	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Tube		
Tolerances:					
XX.0mm		±0.5mm	DWG NO. 6		
XX.00mm		±0.1mm			
XX°		±0.1°			
MATERIAL:			A4		
Copper Tube			3rd Angle Projection		
			SCALE:1:2		SHEET 1 OF 1





DETAIL A
SCALE 5 : 1



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Plate End - Duo		
Tolerances:					
XX.0mm		±0.5mm	DWG NO. 8		
XX.00mm		±0.1mm			
XX°		±0.1°			
MATERIAL: 4.5mm Plastic Sheet			3rd Angle Projection		A4
			SCALE:1:1		SHEET 1 OF 1

D

C

B

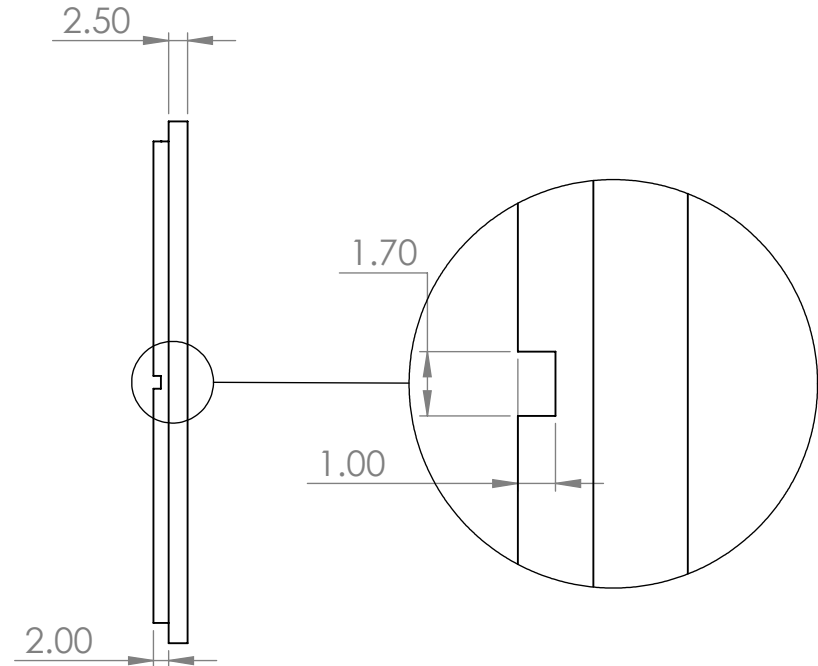
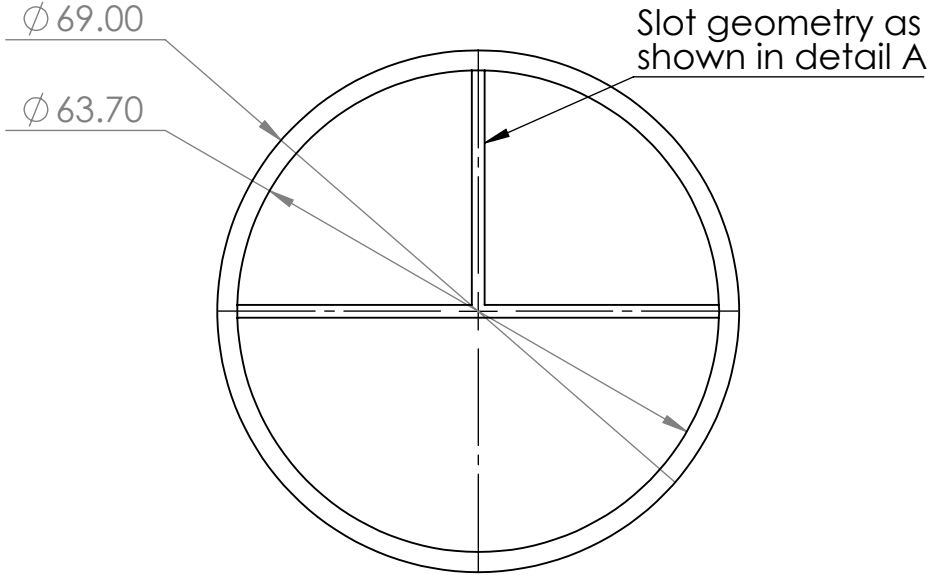
A

D

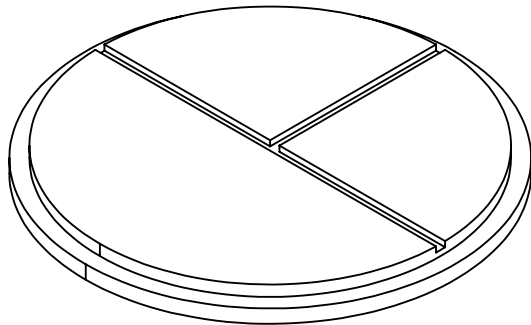
C

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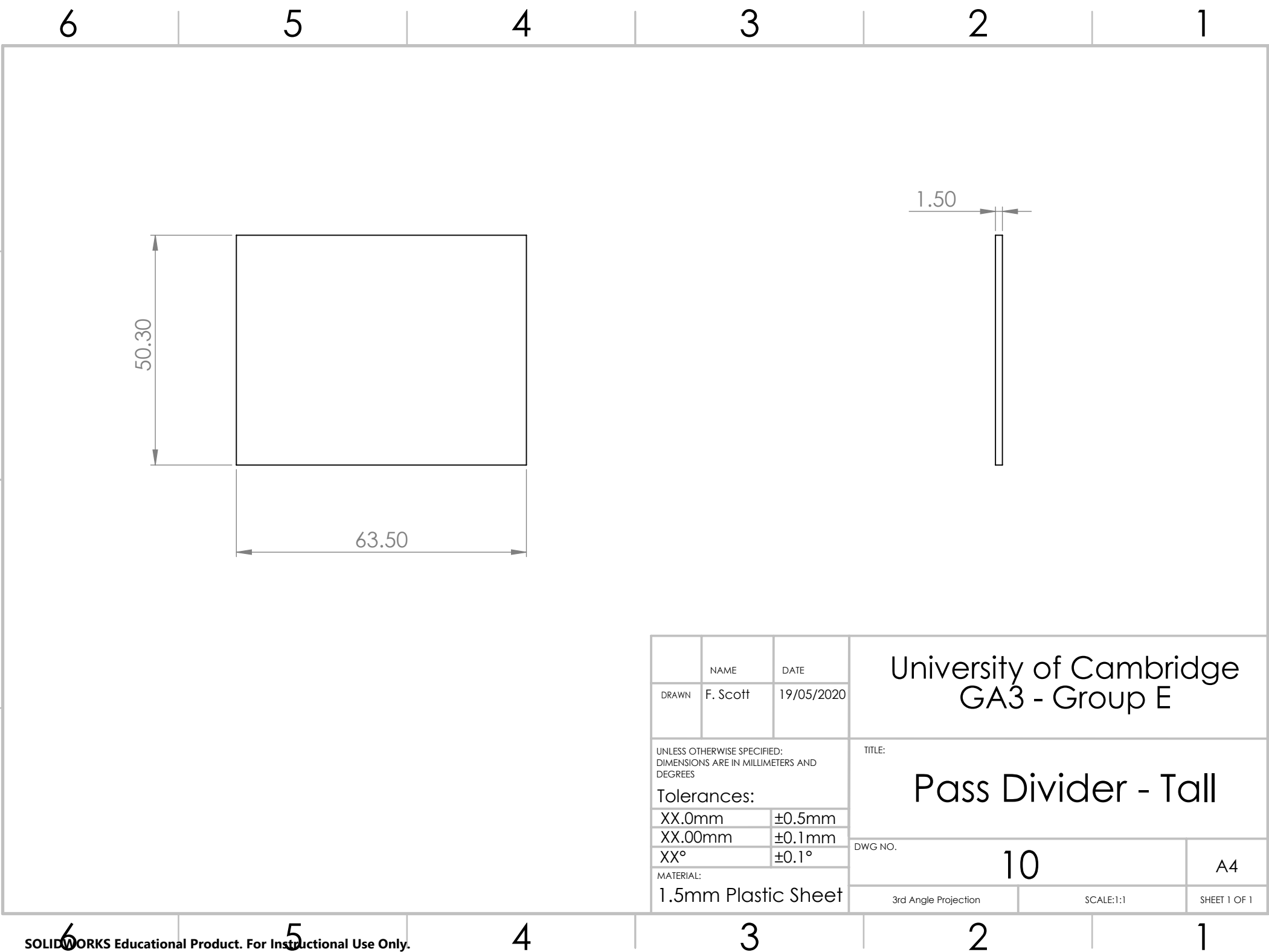
A

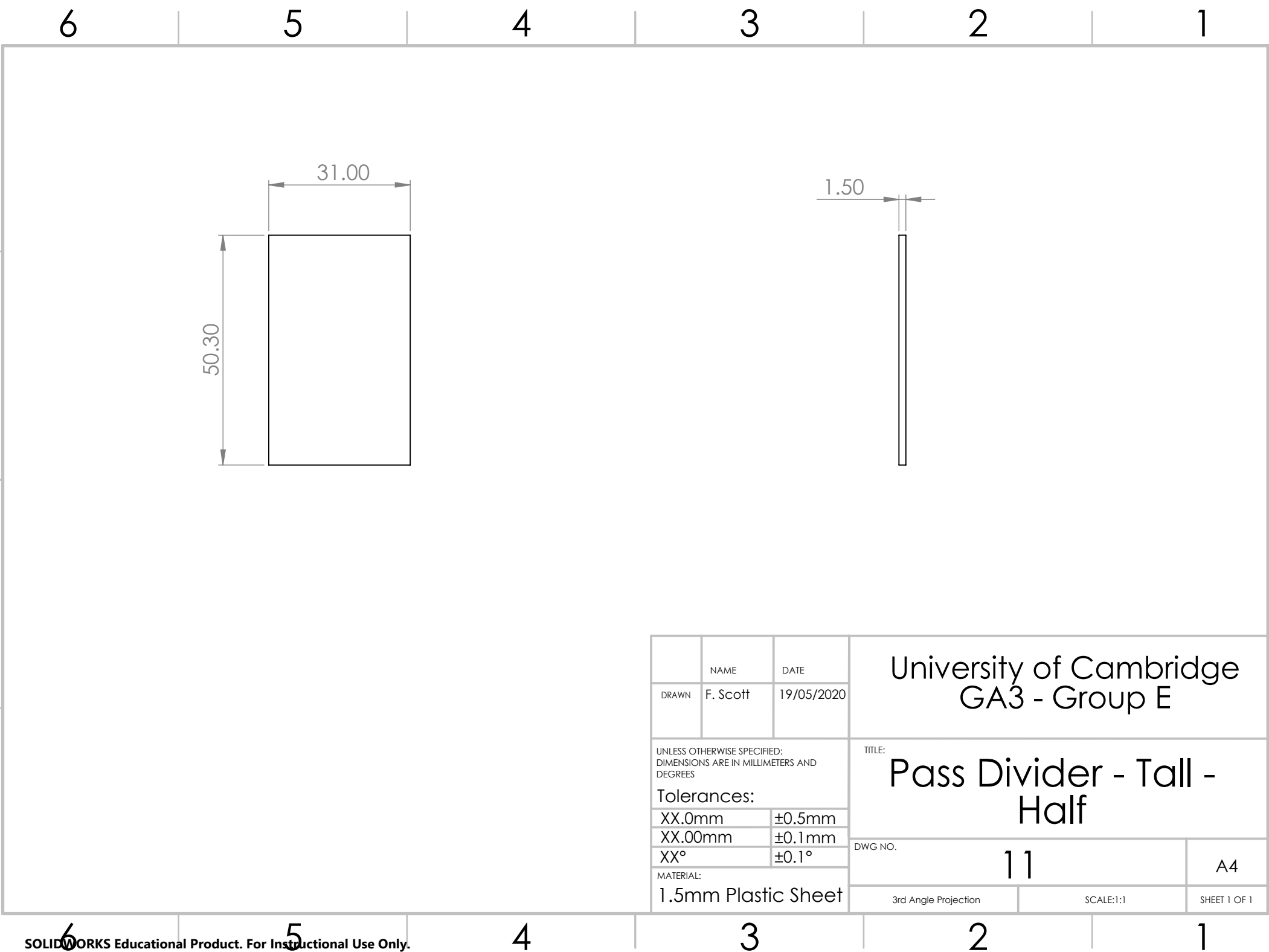


DETAIL A
SCALE 5 : 1



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES Tolerances: XX.0mm $\pm 0.5\text{mm}$ XX.00mm $\pm 0.1\text{mm}$ XX° $\pm 0.1^\circ$ MATERIAL: 4.5mm Plastic Sheet			TITLE: Plate End - Trio		
			DWG NO. 9		A4
			3rd Angle Projection		SHEET 1 OF 1





D

D

C

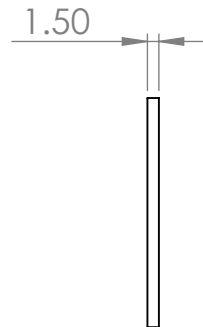
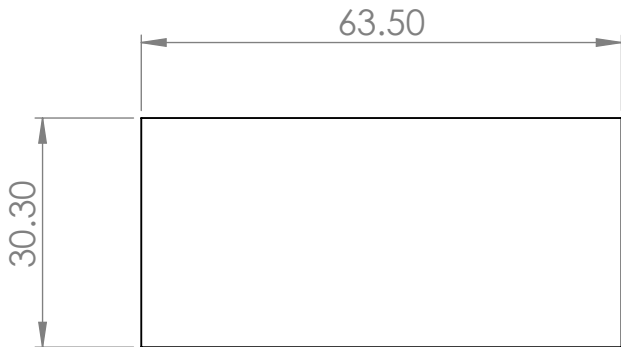
C

B

B

A

A



	NAME	DATE	University of Cambridge GA3 - Group E		
DRAWN	F. Scott	19/05/2020			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES Tolerances: XX.0mm ±0.5mm XX.00mm ±0.1mm XX° ±0.1° MATERIAL: 1.5mm Plastic Sheet			TITLE: Pass Divider - Short		
			DWG NO. 12		A4
			3rd Angle Projection		SHEET 1 OF 1

D

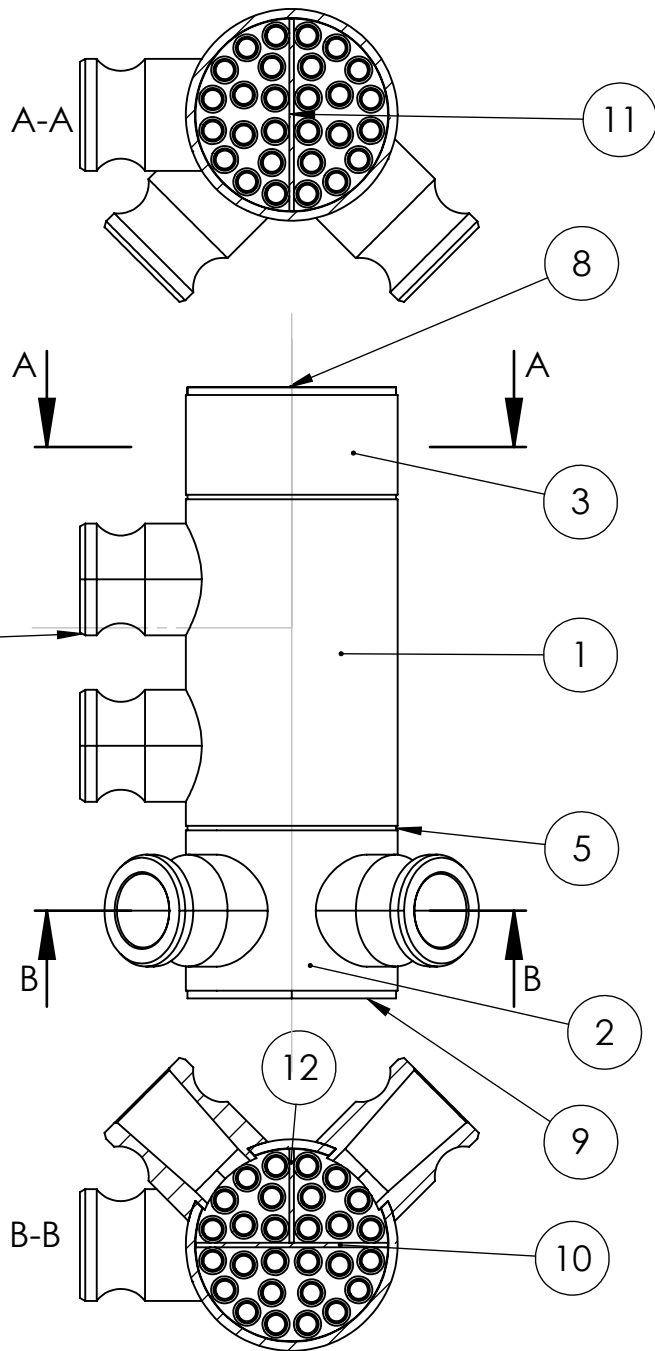
C

B

A

SECTION A-A

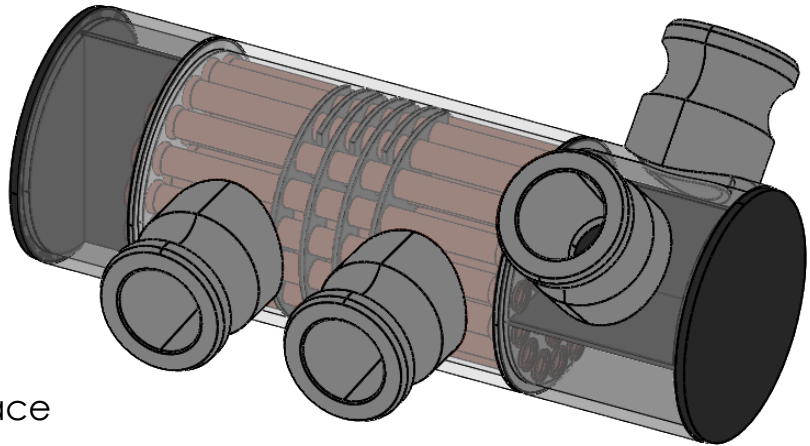
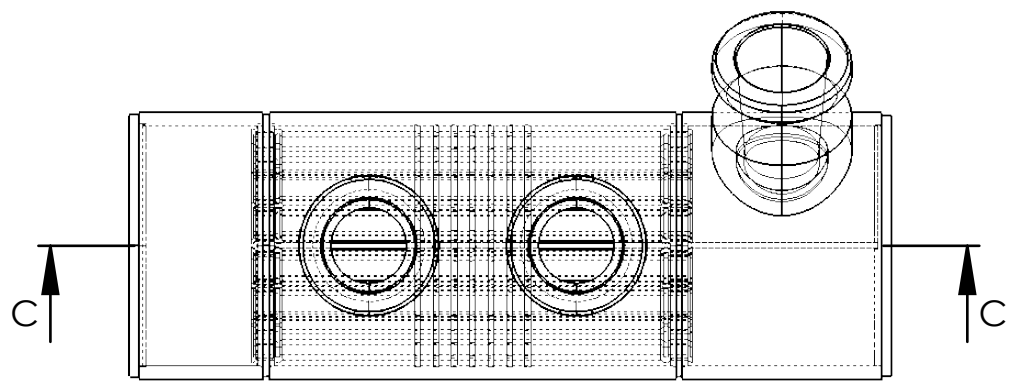
SECTION B-B



ITEM NO.	PART NUMBER	QTY.
1	Shell Tube	1
2	Head Tube 1	1
3	Head Tube 2	1
4	Baffle Plate	7
5	Tube Plate	2
6	Tube	28
7	Baffle Spacer	1
8	Plate End Duo	1
9	Plate End Trio	1
10	Pass Divider Tall	1
11	Pass Divider Short	1
12	Pass Divider Tall Half	1
13	printed_3D_nozzle	4

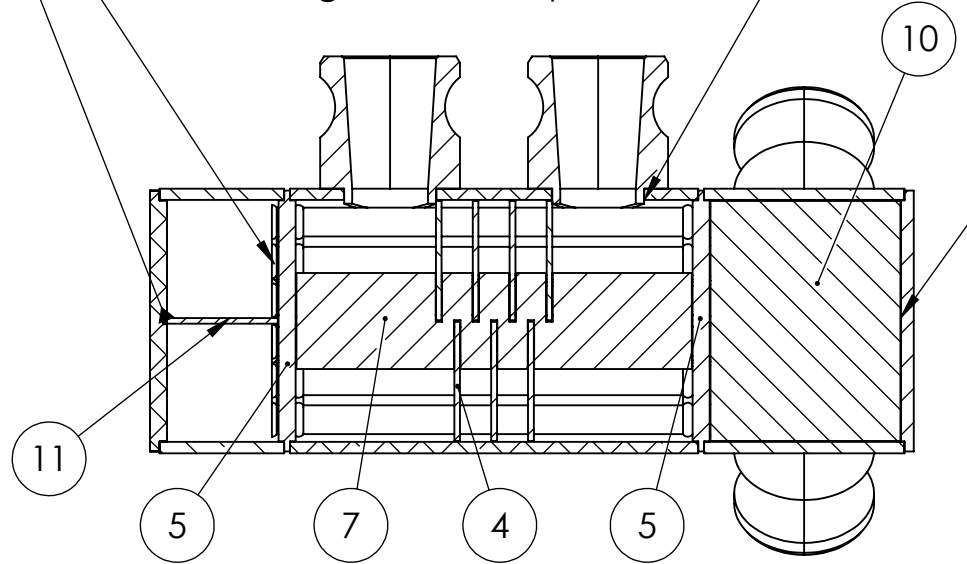
	NAME	DATE	University of Cambridge GA3 - Group E	
DRAWN	F. Scott	19/05/2020		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES Tolerances: XX.0mm ±0.5mm XX.00mm ±0.1mm XX° ±0.1° MATERIAL: -			TITLE: Heat Exchanger Assembly	
			DWG NO. 13	A4
			3rd Angle Projection	SHEET 1 OF 2

D



C

Sealant applied along notch
Tubes swaged into end plate
Nozzles glued in place



Sealant applied along notch

B

A

SECTION C-C

	NAME	DATE	University of Cambridge GA3 - Group E				
DRAWN	F. Scott	19/05/2020					
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS AND DEGREES			TITLE: Heat Exchanger Assembly				
Tolerances:							
XX.0mm		±0.5mm	DWG NO. 13			A4	
XX.00mm		±0.1mm					
XX°		±0.1°					
MATERIAL:			3rd Angle Projection			SCALE:1:2	SHEET 2 OF 2
-							