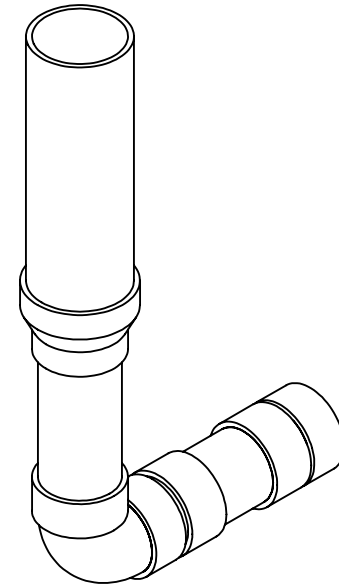
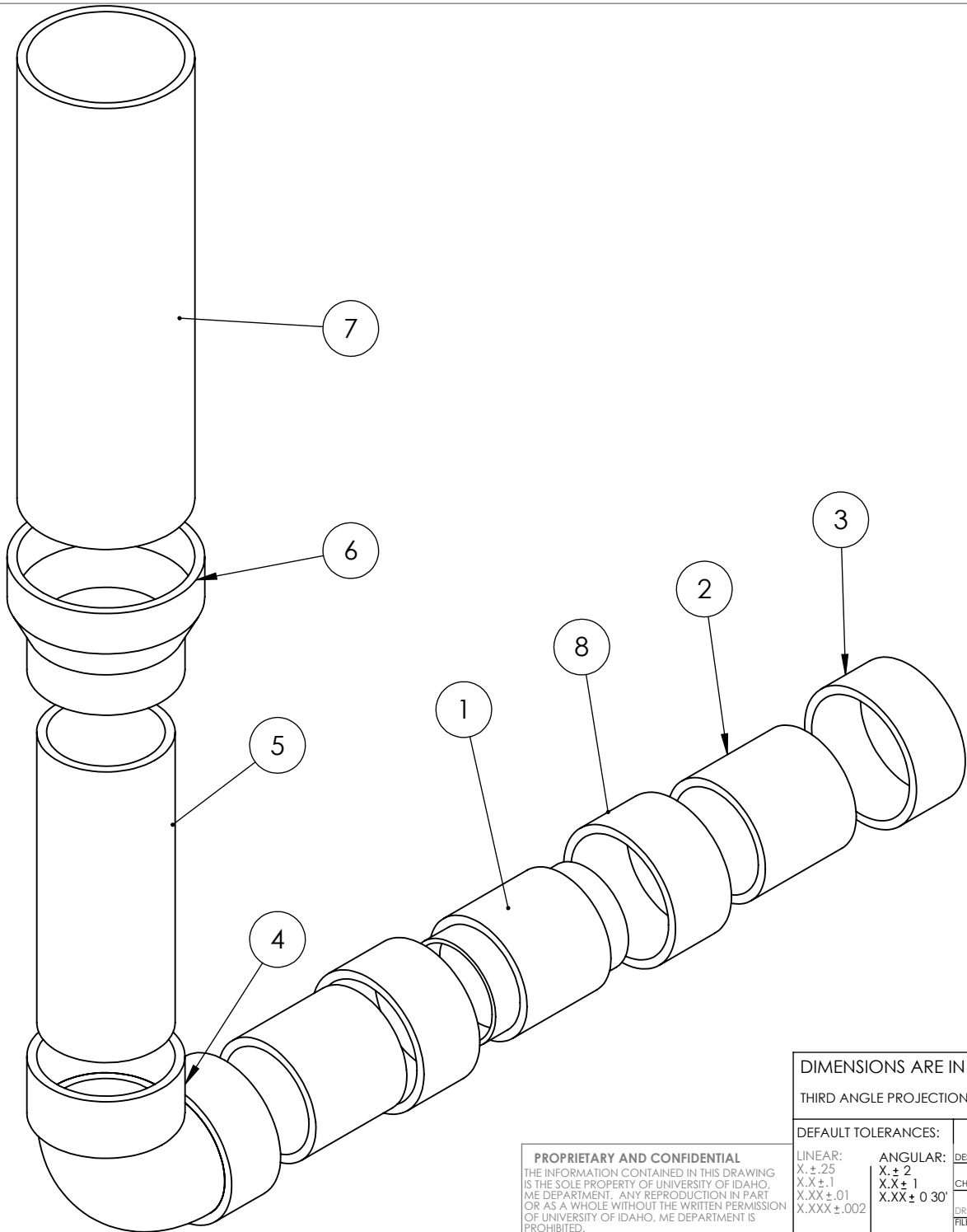


ITEM NO.	PART NUMBER	QTY.
1	Cart assembly	1
2	Pipe assembly	1
3	Fuse box	3
4	Switch box	4
5	Box assembly	1

DIMENSIONS ARE IN METERS		Material:		<h1>Flow Bench</h1>	
THIRD ANGLE PROJECTION					
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:		QTY:	
X. ± .25	X. ± 2	DATE:		4/25/2011	
X.X ± .1	X.X ± 1	DRAWN BY:		DATE:	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: Flow Bench_exploded		Scale: 1:16	
X.XXX ± .002		Application SolidWorks		SHEET 1 OF 1	

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Pipe Assembly

ITEM NO.	PART NUMBER	QTY.
1	Mass Flow Sensor	1
2	PVC 1	2
3	PVC coupler	1
4	Elbow	1
5	PVC 2	1
6	PVC expander	1
7	PVC 4"	1
8	Rubber coupler	2

DIMENSIONS ARE IN METERS

THIRD ANGLE PROJECTION

Material:

DEFAULT TOLERANCES:

LINEAR:
 X: ±.25
 X.X ±.1
 X.XX ±.01
 X.XXX ±.002

ANGULAR:
 X: ± 2
 X.X ± 1
 X.XX ± 0.30'

DESCRIPTION:

CHECKED BY:

DRAWN BY:

FILE NAME: pipe assembly_exploded

DATE:

4/20/2011

DATE:

CAO Application
SolidWorks

Flow Bench

UNIVERSITY OF IDAHO
ME DEPARTMENT

Part #:

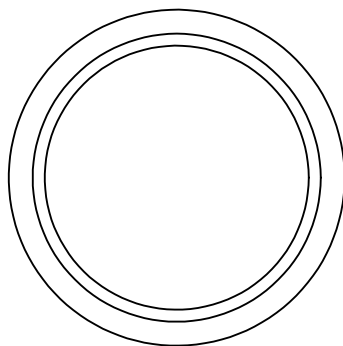
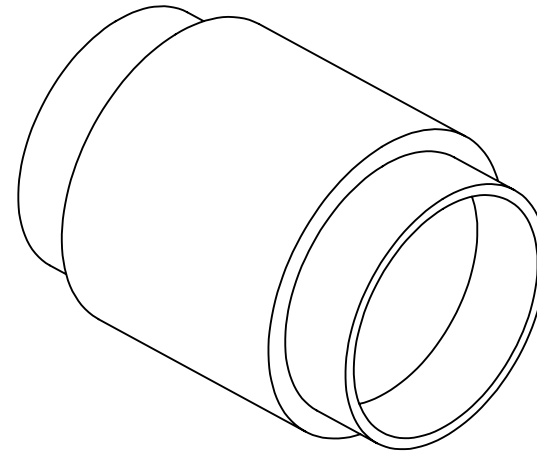
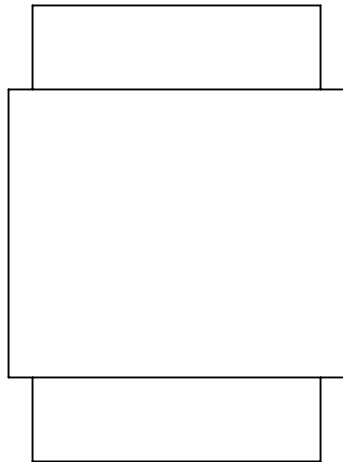
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Scale: 1:4


SHEET 1 OF 8

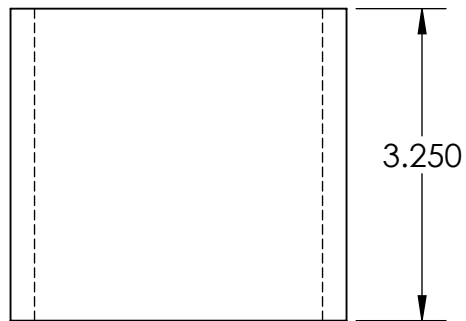
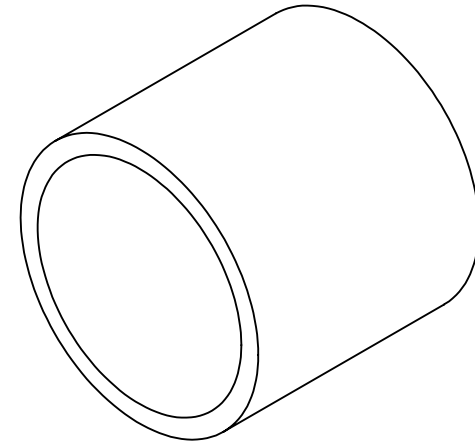
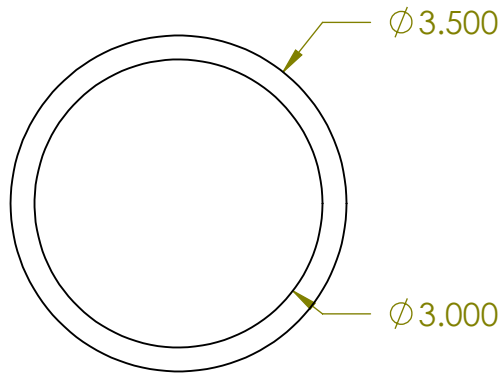
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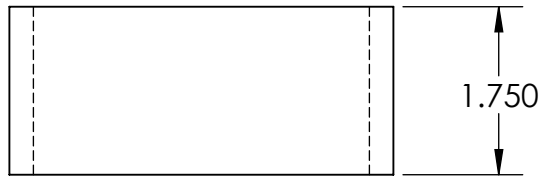
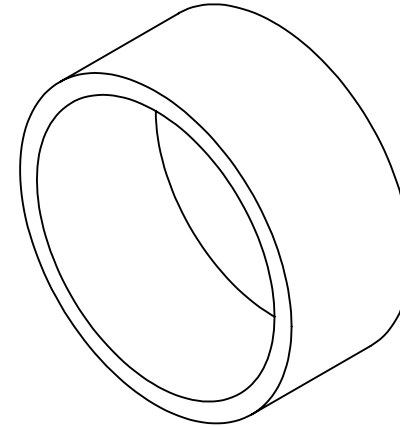
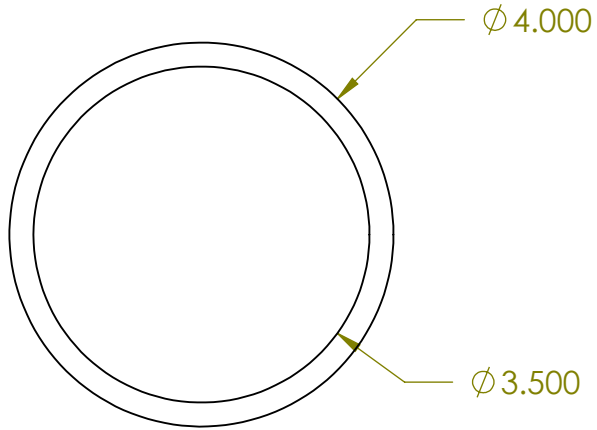
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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION 		Material:			
DEFAULT TOLERANCES:		DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	Part #:	
X. ± .25	X. ± 2		11/3/2010	QTY:	
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	Scale: 1:2	
X.XX ± .01	X.XX ± 0.30	FILE NAME: Mass Flow Sensor	CAO Application SolidWorks	SHEET 2 OF 8	
X.XXX ± .002					



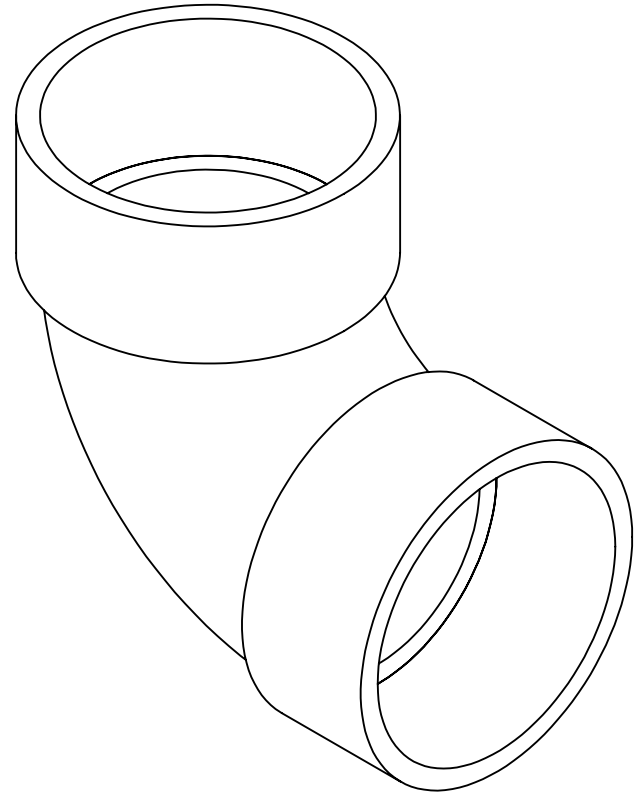
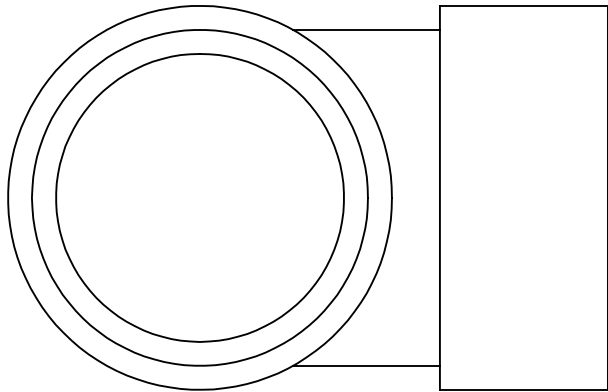
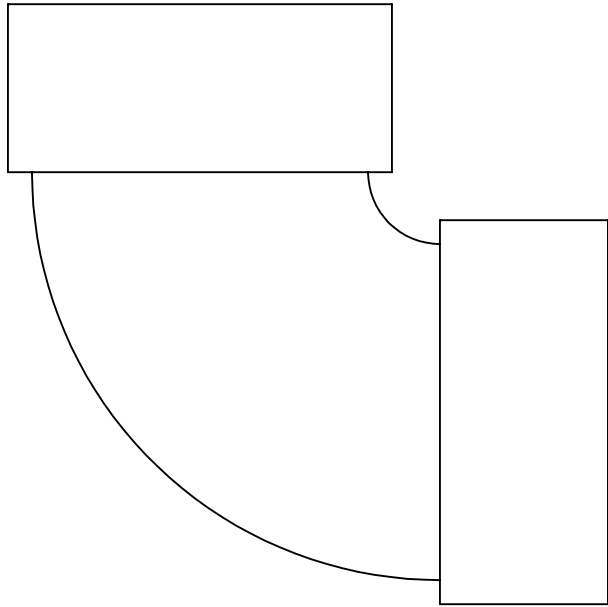
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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 3" Schedule 40 PVC pipe			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	QTY:	
X. ± .25	X. ± 2		4/20/2011		
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:		
X.XX ± .01	X.XX ± 0.30'				
X.XXX ± .002		FILE NAME: PVC 1	CAO Application SolidWorks	Scale: 1:2	
				SHEET 3 OF 8	




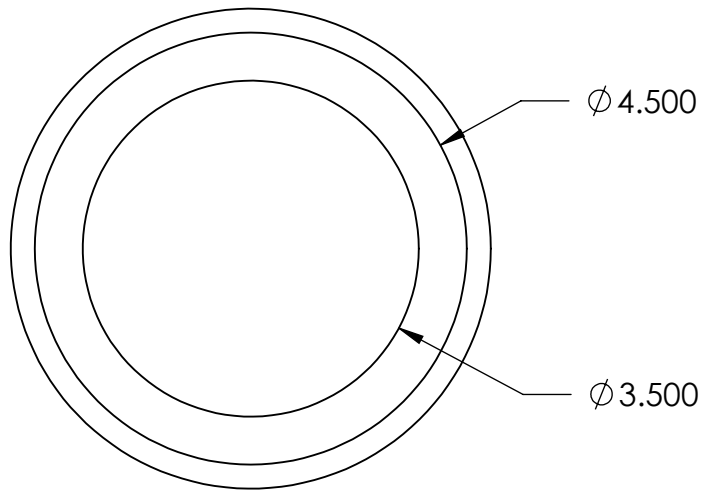
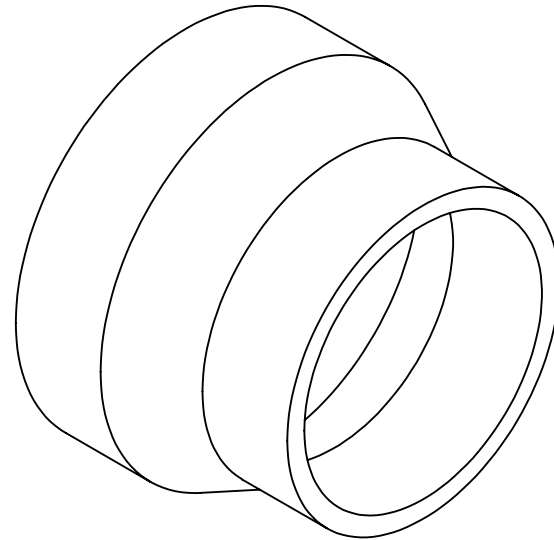
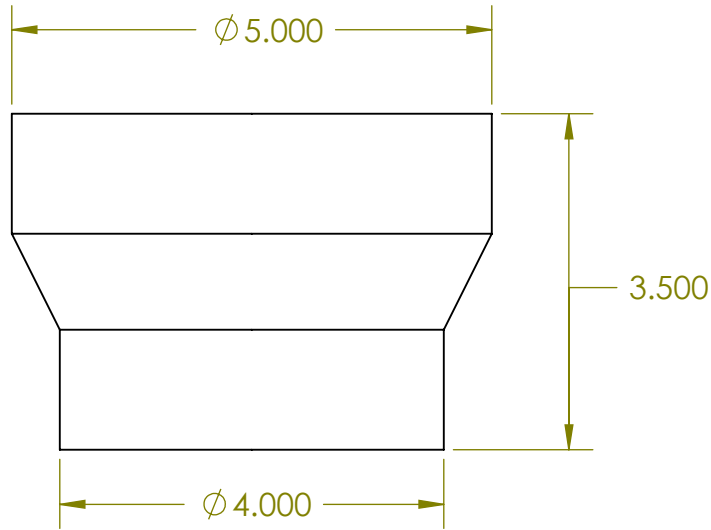
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DIMENSIONS ARE IN METERS				Flow Bench
THIRD ANGLE PROJECTION		Material: 3" Schedule 40 PVC pipe coupler		
DEFAULT TOLERANCES:		DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT
LINEAR: X. ± .25 X.X ± .1 X.XX ± .01 X.XXX ± .002	ANGULAR: X. ± 2 X.X ± 1 X.XX ± 0 30'	CHECKED BY:	DATE:	
		DRAWN BY:	4/20/2011	Part #:
		FILE NAME: pvc_coupler	CAO Application SolidWorks	QTY:
		Scale: 1:2		SHEET 4 OF 8



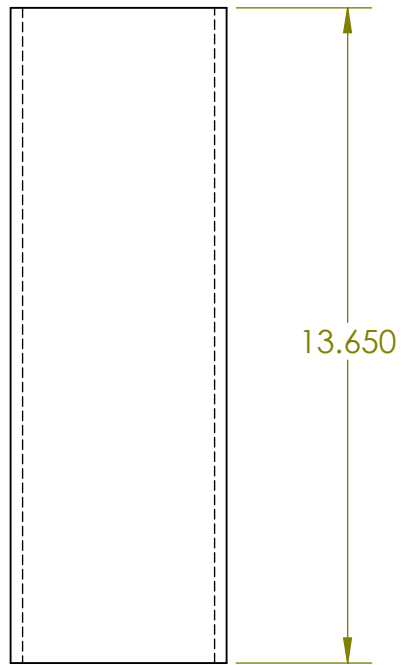
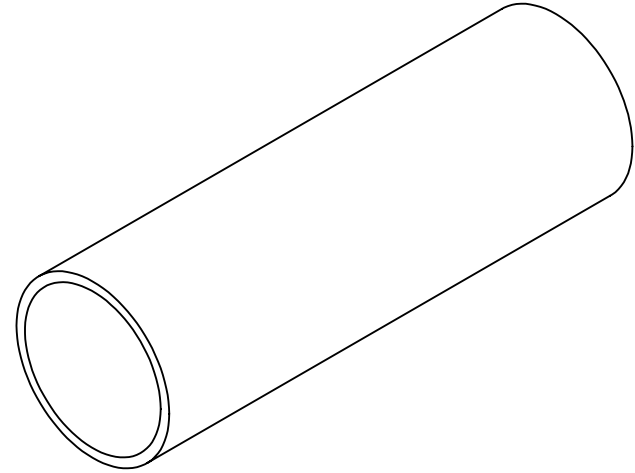
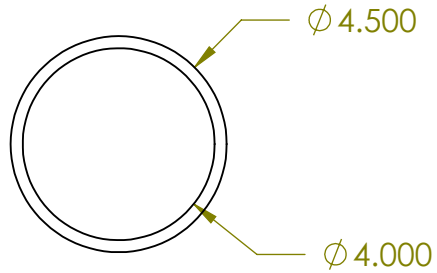
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DIMENSIONS ARE IN METERS			
THIRD ANGLE PROJECTION 		Material: 3" pvc pipe elbow	Flow Bench
DEFAULT TOLERANCES:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR: X. ± .25 X.X ± .1 X.XX ± .01 X.XXX ± .002	ANGULAR: X. ± 2 X.X ± 1 X.XX ± 0.30'	DESCRIPTION:	Part #:
		CHECKED BY:	QTY:
		DRAWN BY:	Scale: 1:4
		FILE NAME: Elbow	SHEET 5 OF 8
		DATE: 4/20/2011	
		DATE:	
		CAO Application SolidWorks	



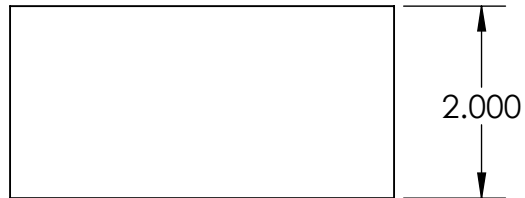
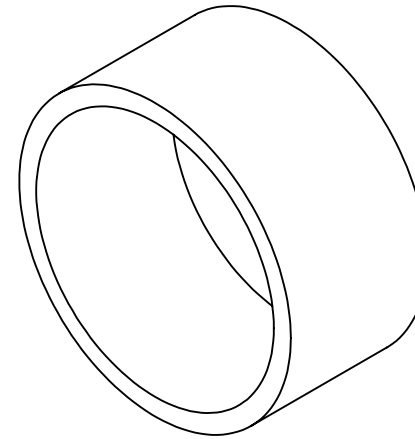
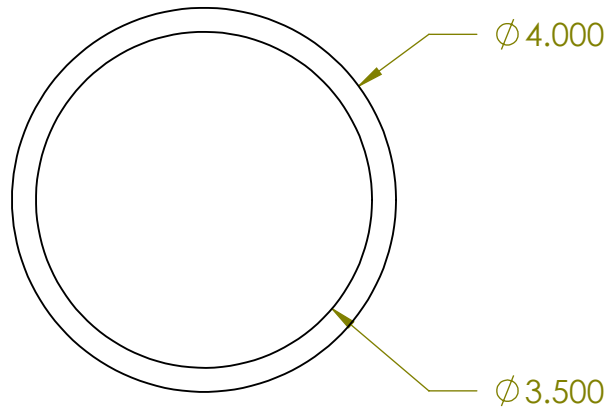
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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 3" to 4" Pipe expander			
DEFAULT TOLERANCES:		DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	Part #:	
X. ± .25	X. ± 2		4/20/2011	QTY:	
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	Scale: 1:4	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: PVC expander	CAO Application SolidWorks	SHEET 6 OF 8	
X.XXX ± .002					



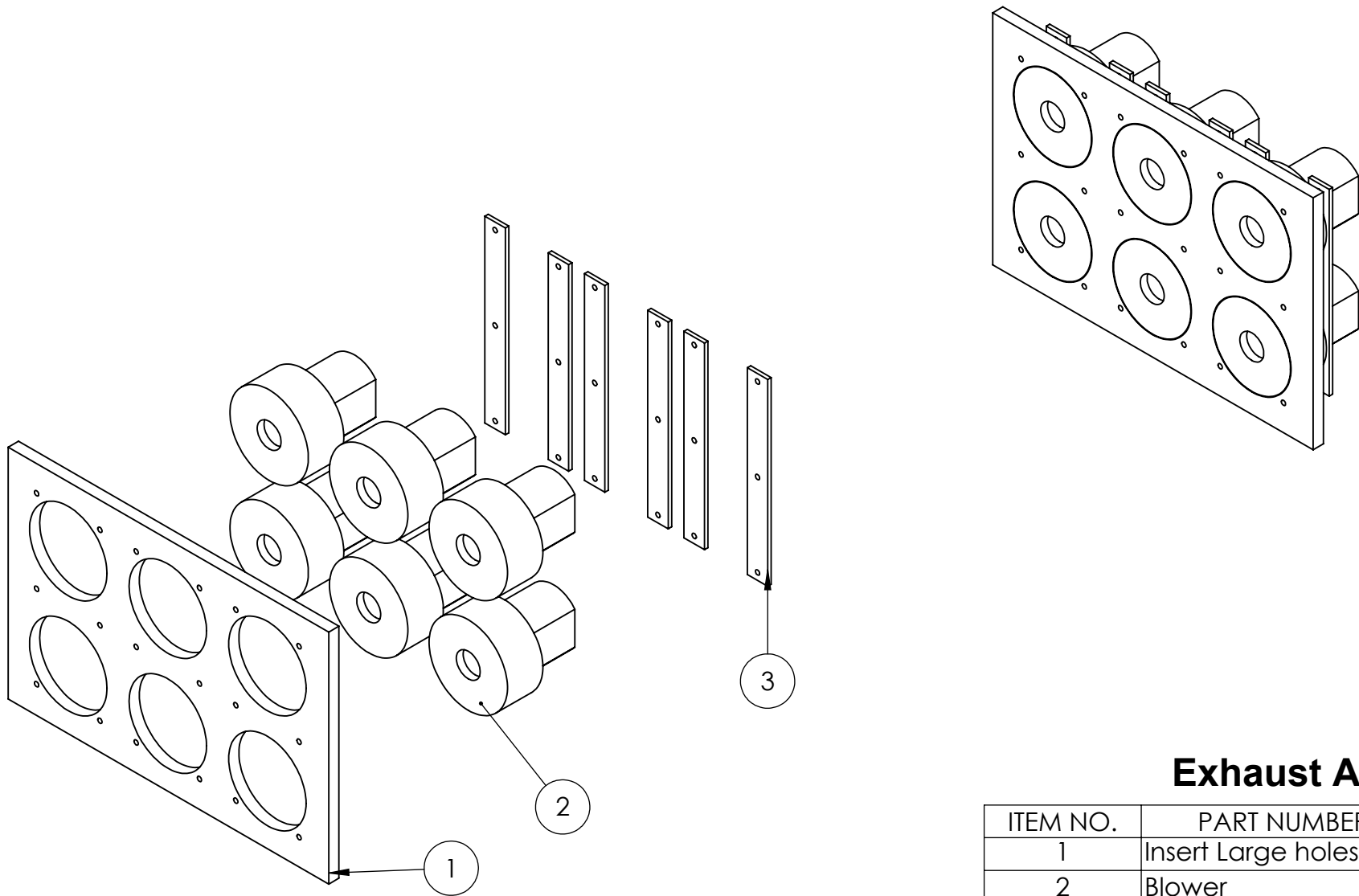
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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 3" Schedule 40 PVC pipe			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	QTY:	
X. ± .25	X. ± 2		4/20/2011		
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:		
X.XX ± .01	X.XX ± 0.30'	FILE NAME: PVC 4in	CAO Application SolidWorks	Scale: 1:4	
X.XXX ± .002				SHEET 7 OF 8	



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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 3" Pipe rubber coupler			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	QTY:	
X. ± .25	X. ± 2		4/19/2011	Scale: 1:2	
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	SHEET 8 OF 8	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: Rubber coupler	CAO Application SolidWorks		
X.XXX ± .002					

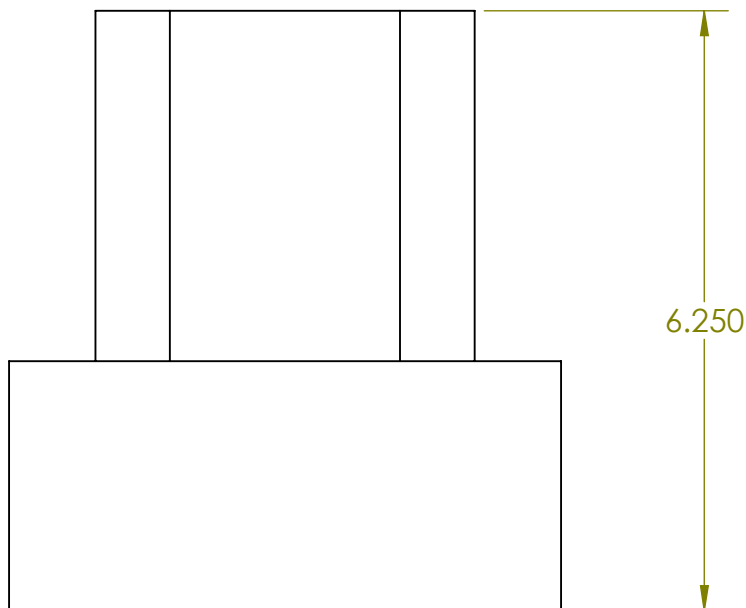
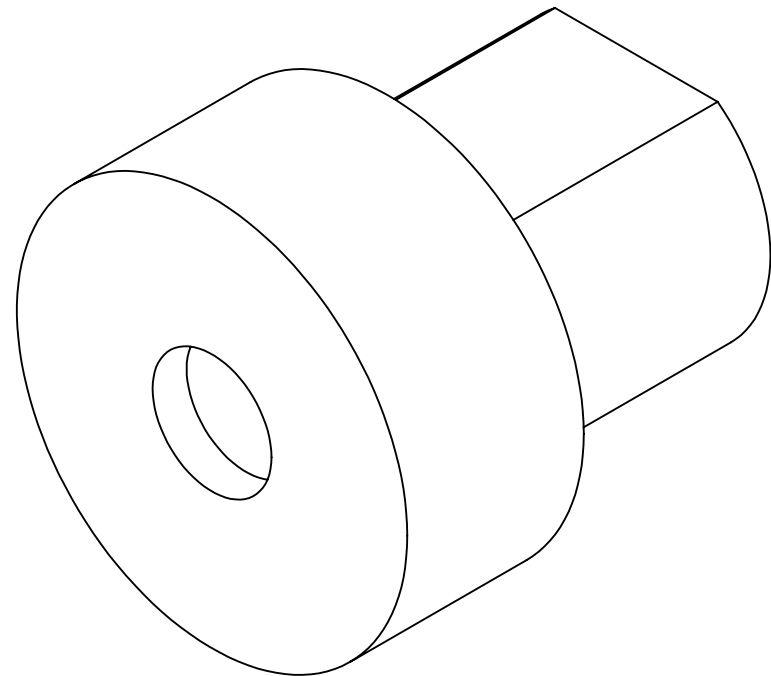
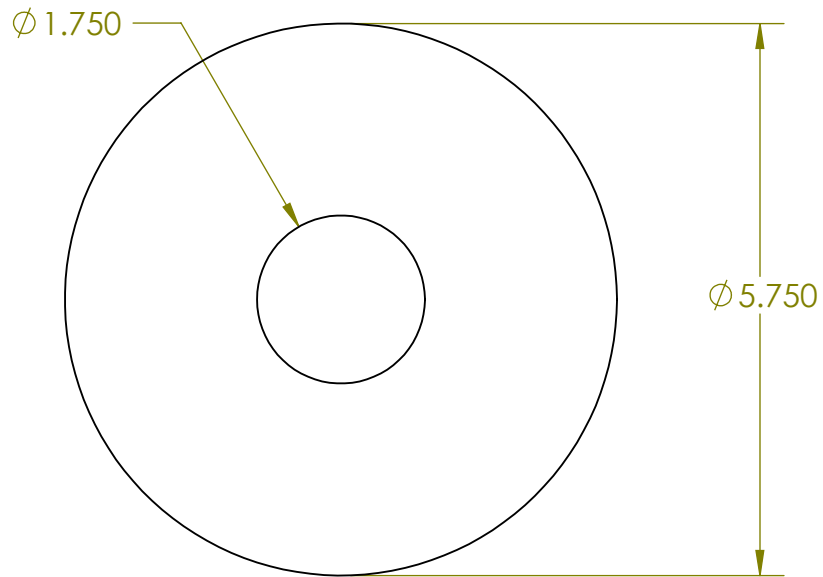


Exhaust Assembly

ITEM NO.	PART NUMBER	QTY.
1	Insert Large holes	1
2	Blower	6
3	Metal Strap	6

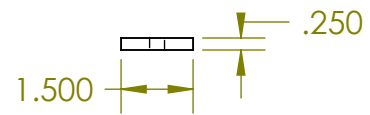
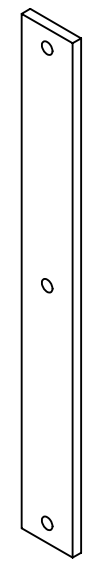
DIMENSIONS ARE IN METERS		Material:	<i>Flow Bench</i>	
THIRD ANGLE PROJECTION				
DEFAULT TOLERANCES:		UNIVERSITY OF IDAHO ME DEPARTMENT		
LINEAR:	ANGULAR:	DESCRIPTION:	DATE:	Part #:
X. ± .25	X. ± 2	CHECKED BY:	4/20/2011	QTY:
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	Scale: 1:8
X.XX ± .01	X.XX ± 0.30'	FILE NAME: Exhaust assembly_exploded	CAD Application SolidWorks	SHEET 1 OF 4
X.XXX ± .002				

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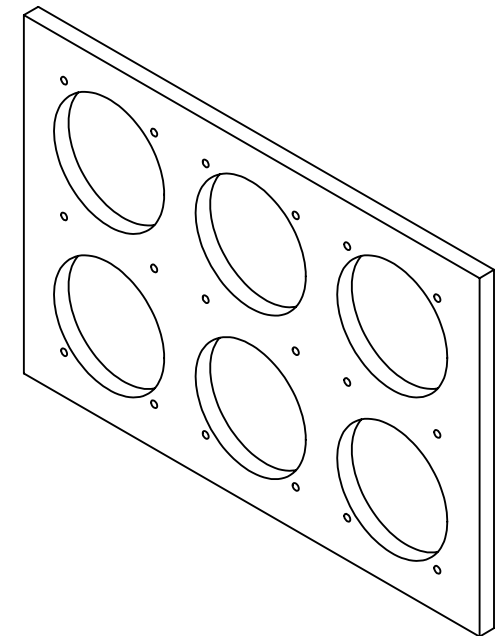
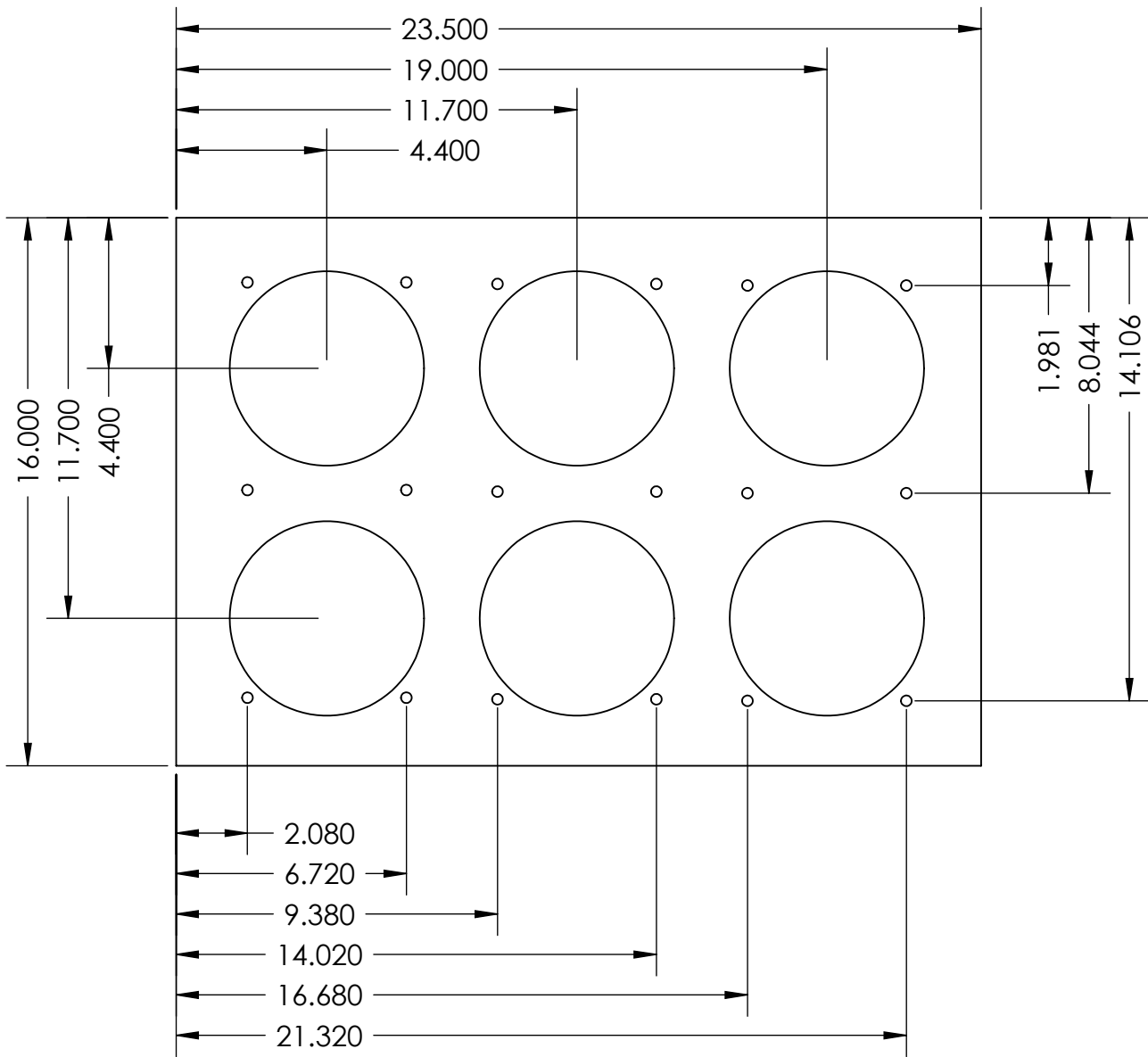
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DIMENSIONS ARE IN METERS		THIRD ANGLE PROJECTION		Material: Amitek AC Electric Blower	Flow Bench	
DEFAULT TOLERANCES:		DESCRIPTION:		DATE:		
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	4/20/2011	Part #:	QTY:
X. ± .25	X. ± 2					
X.X ± .1	X.X ± 1					
X.XX ± .01	X.XX ± 0.30'					
X.XXX ± .002		DRAWN BY:			Scale: 1:2	SHEET 3 OF 4
		FILE NAME: Blower		CAO Application SolidWorks		

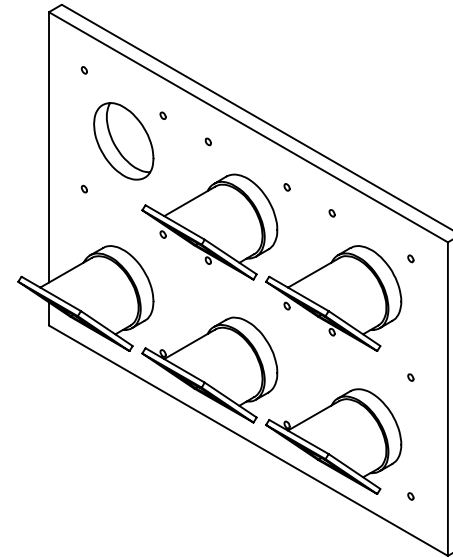
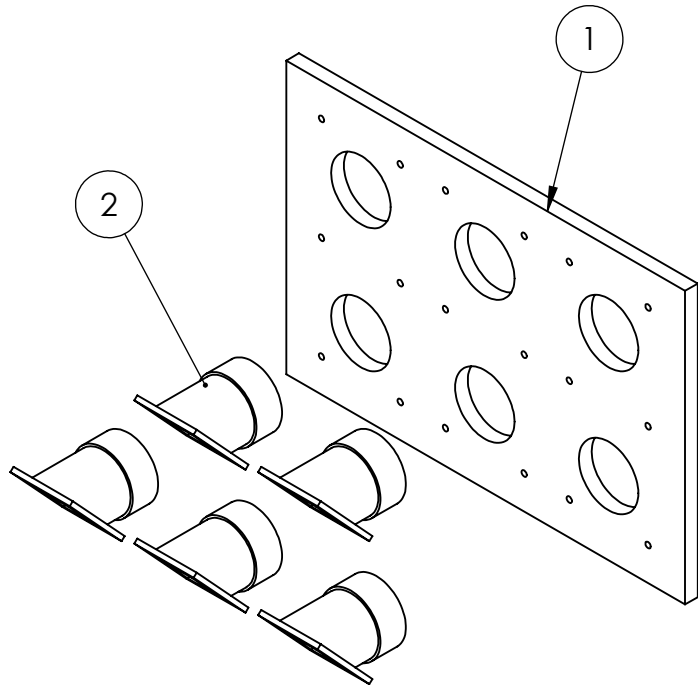


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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 1/4" x 1-1/2" Steel strap			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	QTY:	
X. ± .25	X. ± 2		4/20/2011	Scale: 1:4	
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	SHEET 4 OF 4	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: Metal Strap	CAO Application SolidWorks		
X.XXX ± .002					



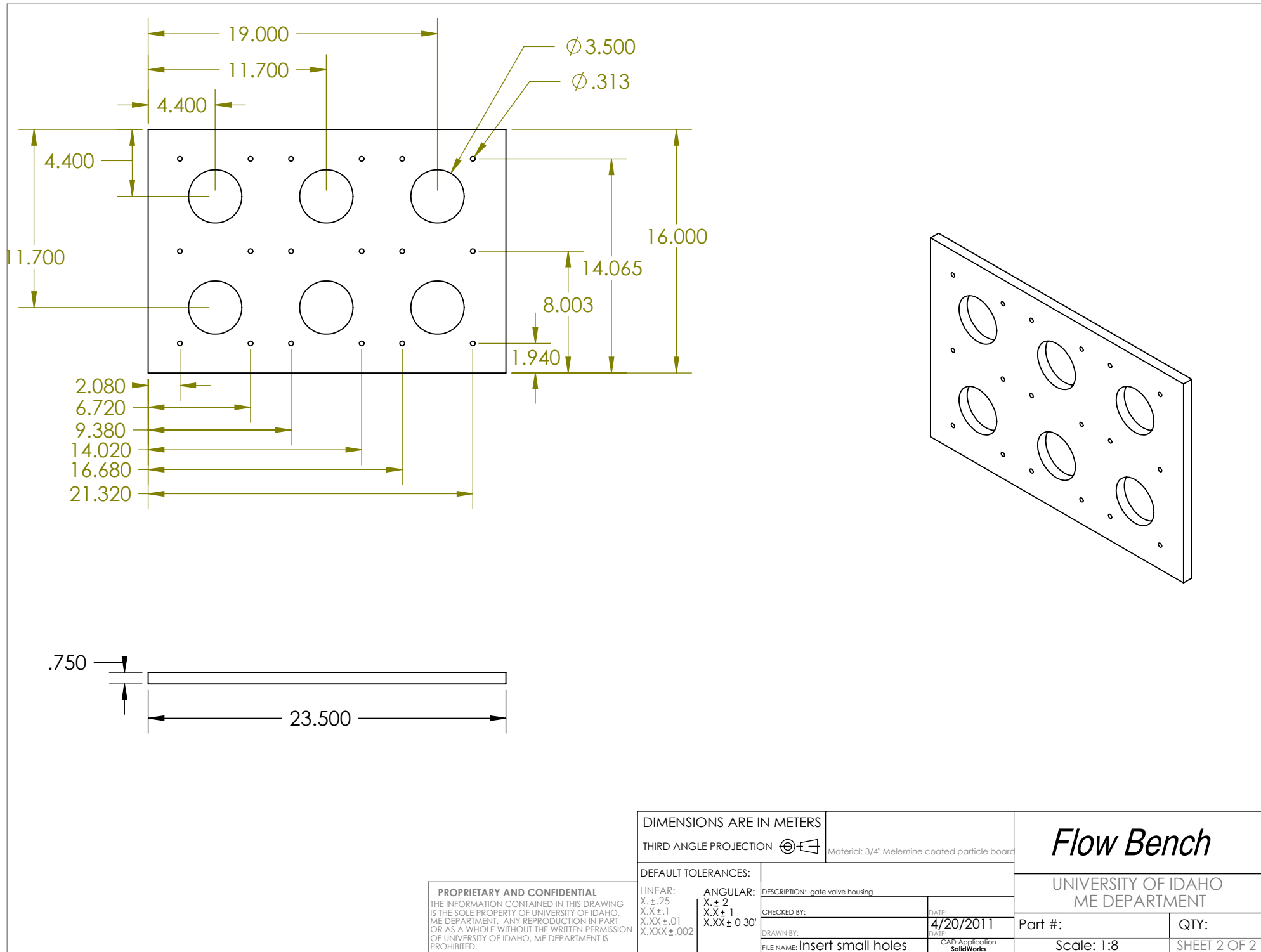
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DEFAULT TOLERANCES:		MATERIAL:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR: X. ± .25 X.X ± .1 X.XX ± .01 X.XXX ± .002	ANGULAR: X. ± 2 X.X ± 1 X.XX ± 0.30'	DESCRIPTION:	DATE:	PART #:	QTY:
		CHECKED BY:	DATE: 4/20/2011		
		DRAWN BY:	FILE NAME: Insert Large holes.SLDPRT	SCALE: 1:5	SHEET: 1 OF 1



Intake Assembly

ITEM NO.	PART NUMBER	QTY.
1	Insert small holes	1
2	Gate valve assembly	5

DIMENSIONS ARE IN METERS		Material:		<i>Flow Bench</i>	
THIRD ANGLE PROJECTION					
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ANGLAR: X. ± 2 X.X ± 1 X.XX ± 0 30'		DESCRIPTION: CHECKED BY: DATE:		Part #:	
DRAWN BY: FILE NAME: intake assembly_exploded		DATE: 4/20/2011 CAD Application SolidWorks		QTY: Scale: 1:8	

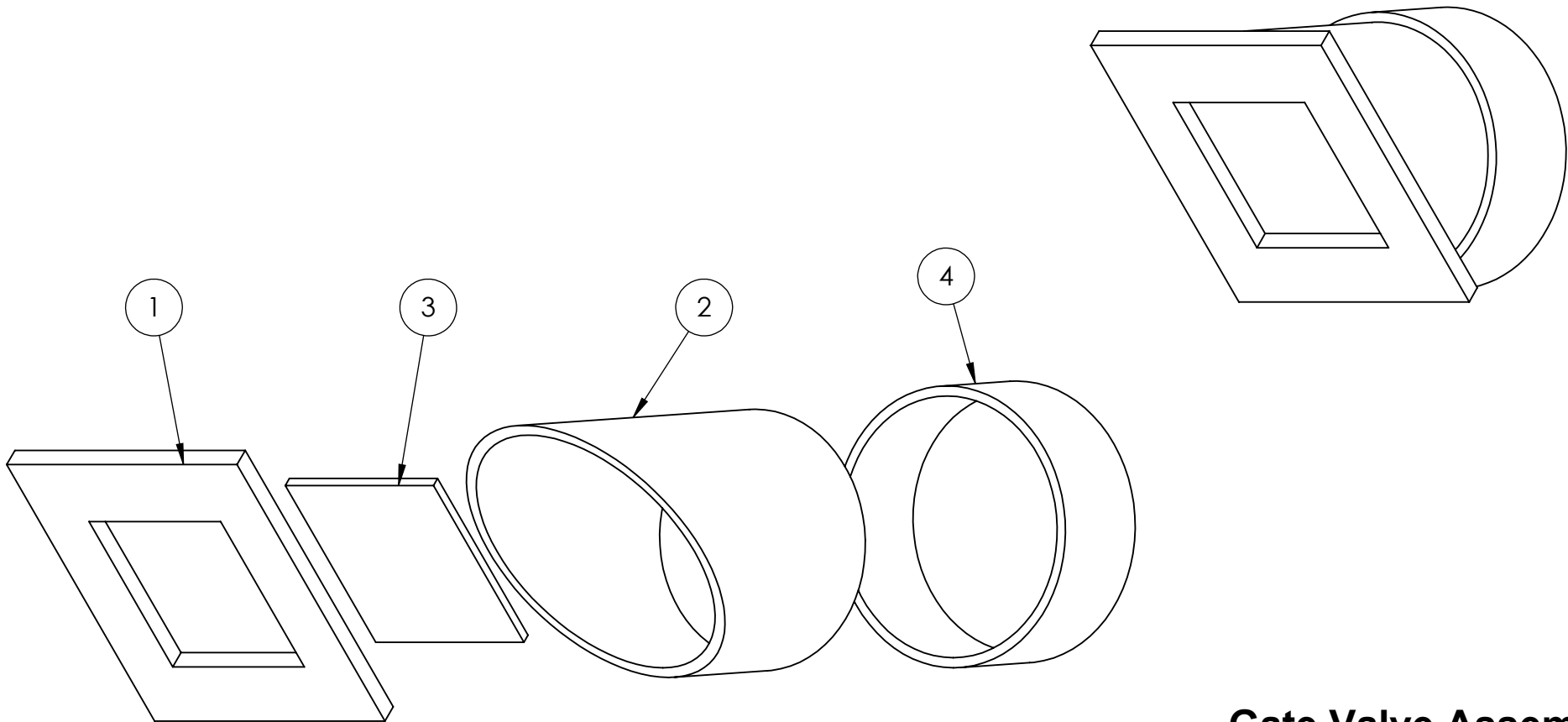


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DIMENSIONS ARE IN METERS			
THIRD ANGLE PROJECTION		Material: 3/4" Melemine coated particle board	
DEFAULT TOLERANCES:		DESCRIPTION: gate valve housing	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:
X. ± .25	X. ± 2		4/20/2011
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:
X.XX ± .01	X.XX ± 0.30'		
X.XXX ± .002		FILE NAME: Insert small holes	CAO Application SolidWorks
		Part #:	QTY:
		Scale: 1:8	SHEET 2 OF 2

Flow Bench

UNIVERSITY OF IDAHO
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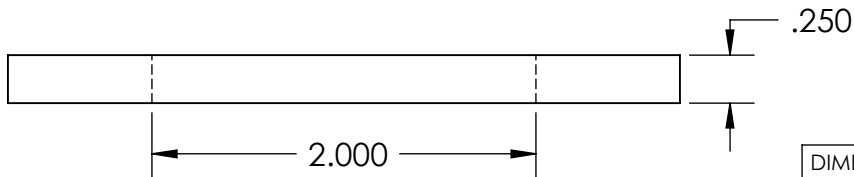
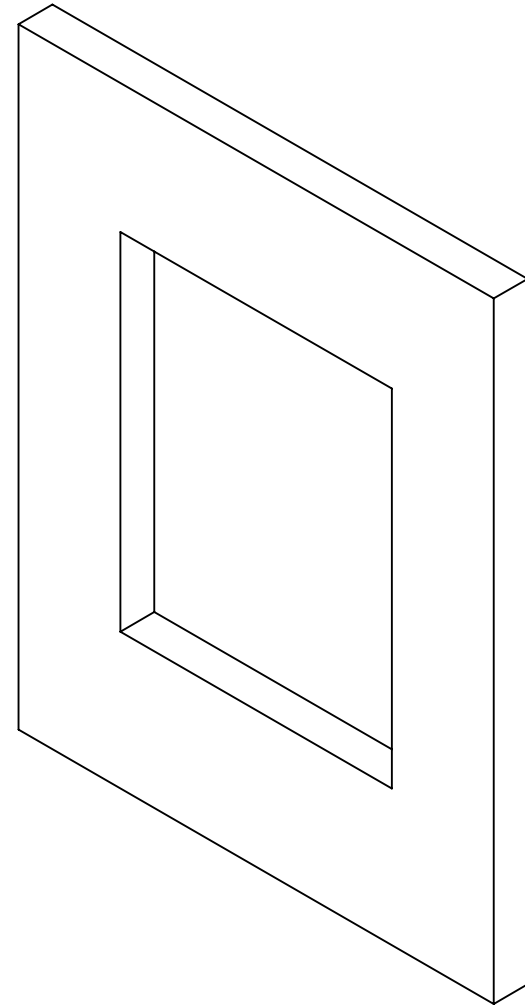
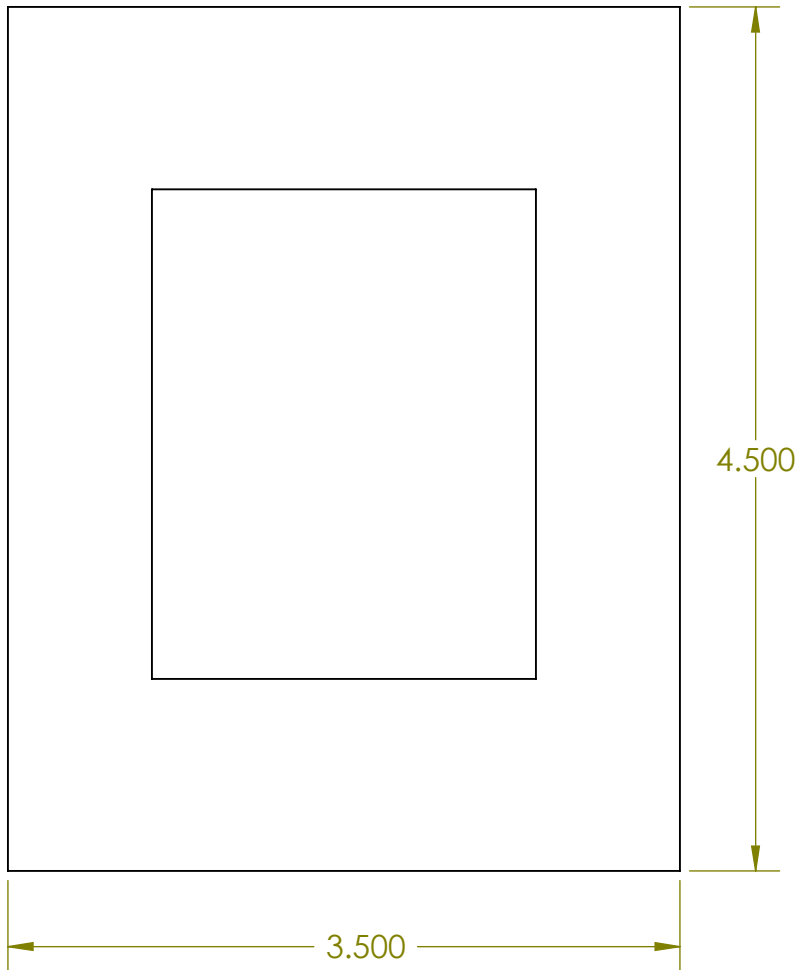


Gate Valve Assembly

ITEM NO.	PART NUMBER	QTY.
1	Gate valve base	1
2	Valve tube	1
3	Gate valve	1
4	3" polystyrene coupler	1

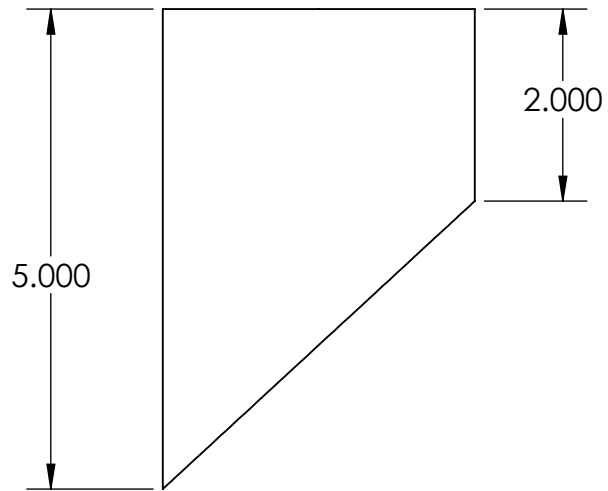
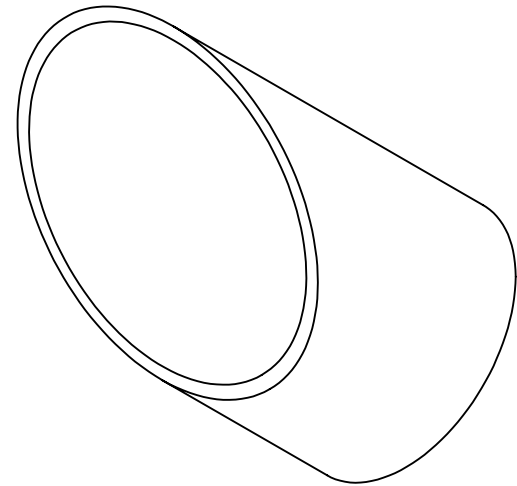
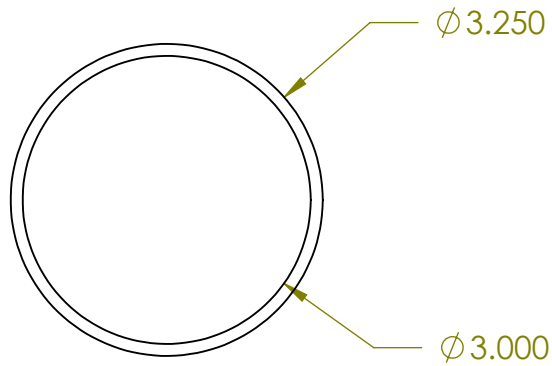
DIMENSIONS ARE IN METERS		Material:		Flow Bench	
THIRD ANGLE PROJECTION					
DEFAULT TOLERANCES:		DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	Part #:	
X. ± .25	X. ± 2		4/20/2011	QTY:	
X.X ± .1	X.X ± 1			Scale: 1:4	
X.XX ± .01	X.XX ± 0.30	DRAWN BY:	DATE:	SHEET 1 OF 5	
X.XXX ± .002		FILE NAME: Gate valve assembly_exploded	CAO Application SolidWorks		

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


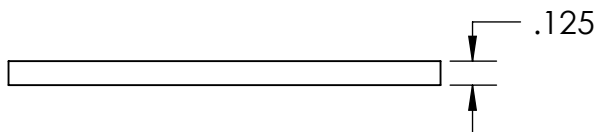
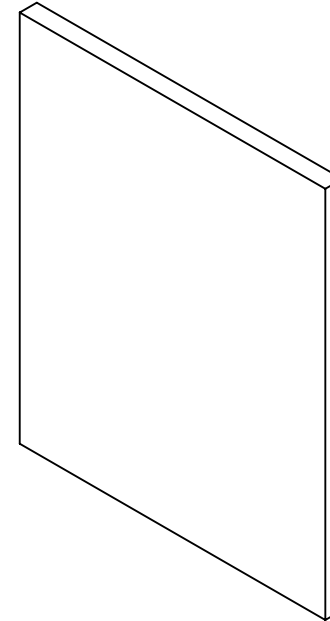
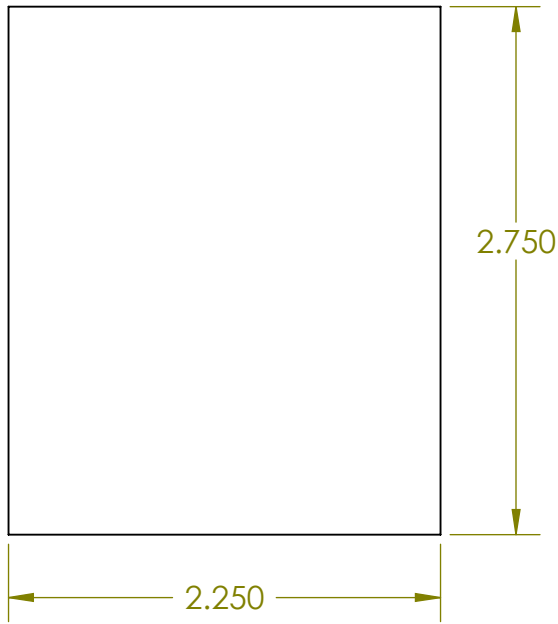
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DIMENSIONS ARE IN METERS		THIRD ANGLE PROJECTION		Material: 1/4" polystyrene plate	<h1>Flow Bench</h1>	
DEFAULT TOLERANCES:		DESCRIPTION:		DATE:		
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	4/20/2011	Part #:	QTY:
X. ± .25	X. ± 2					
X.X ± .1	X.X ± 1					
X.XX ± .01	X.XX ± 0.30'	DRAWN BY:	DATE:			
X.XXX ± .002		FILE NAME: Gate valve base	CAO Application SolidWorks		Scale: 1:1	SHEET 2 OF 5



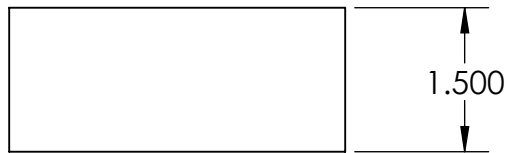
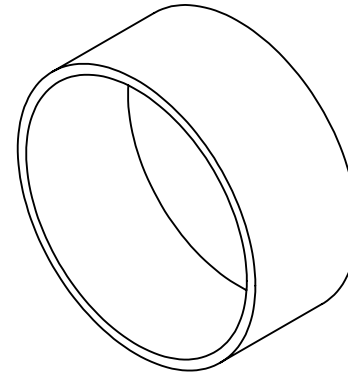
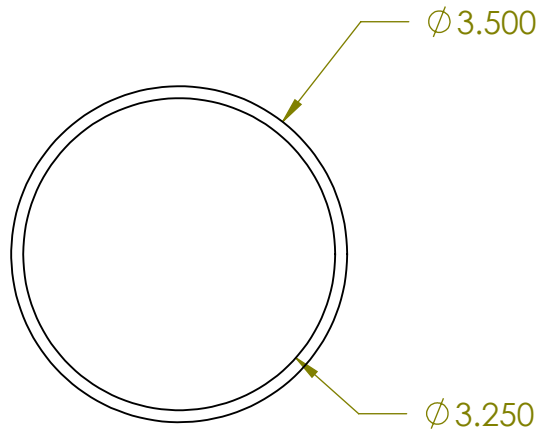
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DIMENSIONS ARE IN METERS				Flow Bench	
THIRD ANGLE PROJECTION 		Material: 3" Polystyrene pipe			
DEFAULT TOLERANCES:		DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	Part #:	
X. ± .25	X. ± 2		4/20/2011	QTY:	
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	Scale: 1:2	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: valve tube	CAO Application SolidWorks	SHEET 3 OF 5	
X.XXX ± .002					




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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION		Material: 1/4" polystyrene			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:	DATE:	QTY:	
X. ± .25	X. ± 2		4/20/2011		
X.X ± .1	X.X ± 1	DRAWN BY:	DATE:	Scale: 1:1	
X.XX ± .01	X.XX ± 0.30'	FILE NAME: Gate_valve	CAO Application SolidWorks	SHEET 4 OF 5	
X.XXX ± .002					



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DIMENSIONS ARE IN METERS				<i>Flow Bench</i>	
THIRD ANGLE PROJECTION 		Material: 3" polystyrene pipe coupler			
DEFAULT TOLERANCES:		DESCRIPTION:		Part #:	
LINEAR:	ANGULAR:	CHECKED BY:		DATE:	
X. ± .25	X. ± 2	DRAWN BY:		4/20/2011	
X.X ± .1	X.X ± 1	FILE NAME: 3 in polystyrene coupler		DATE:	
X.XX ± .01	X.XX ± 0.30			Scale: 1:2	
X.XXX ± .002				QTY:	
				SHEET 5 OF 5	