

BAB 6

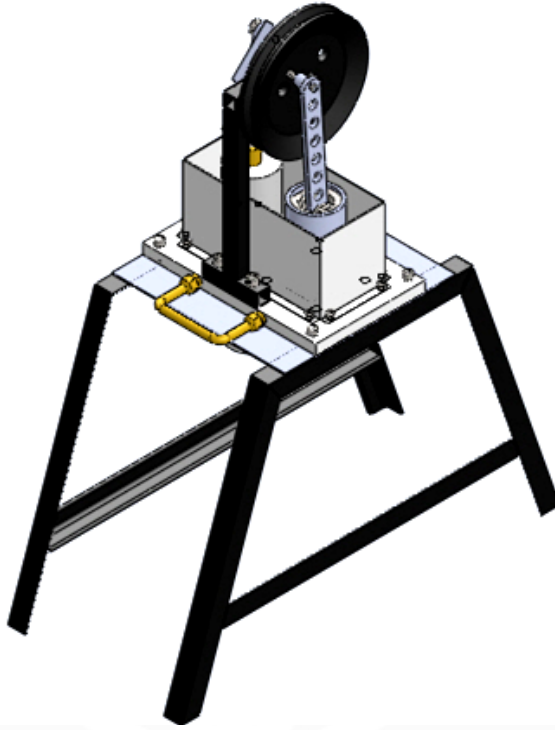
KESIMPULAN DAN SARAN

6.1. Kesimpulan

Berdasarkan penelitian yang telah dilakukan sebelumnya, maka diperoleh hasil rancangan dan produk alat peraga mesin *stirling* sesuai dengan permintaan *customer*. Spesifikasi dari alat peraga dapat dilihat pada tabel 6.1 dibawah ini.

Tabel 6.1 Spesifikasi Alat Peraga

No	Deskripsi	Spesifikasi
1	Dimensi	Panjang = 57 cm
		Lebar = 27 cm
		Tinggi = 74 cm
2	Jenis pendingin	Air
3	Diameter piston (D)	54 mm
4	Panjang langkah (S)	42 mm
5	Tekanan rata-rata (p_{mean})	1,86 bar
6	Daya indikator (P)	960 W (240 rpm)
7	Efisiensi (η_t)	60,26 %
8	Harga	Rp. 5.322.550,00



Gambar 6.1 Alat Peraga Mesin Stirling

6.2. Saran

Perlu dilakukan penelitian lebih lanjut mengenai :

1. *Setting* operasional mesin.
2. Penggunaan jenis pendingin dan pembakar yang lain yang akan lebih mengoptimalkan kerja mesin.
3. Penambahan komponen lain untuk mengetahui *output* yang dapat dihasilkan oleh mesin selain putaran mesin, misalnya penambahan dinamo pada bagian *flywheel* sehingga *output* yang dihasilkan dari mesin adalah listrik.

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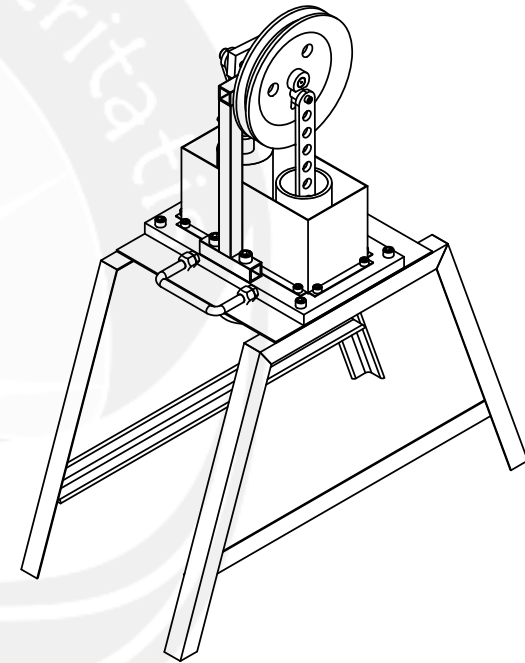
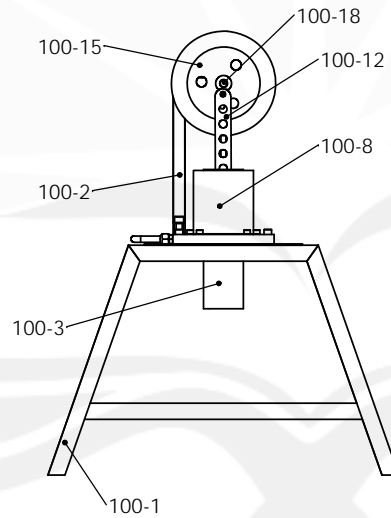
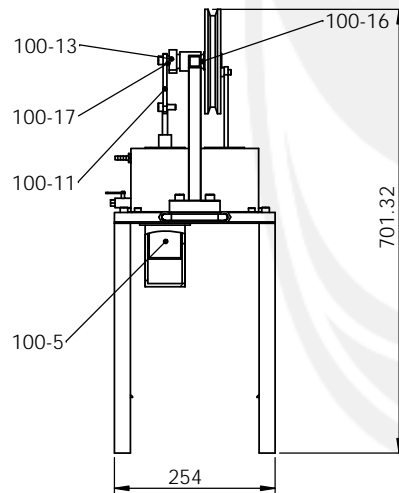
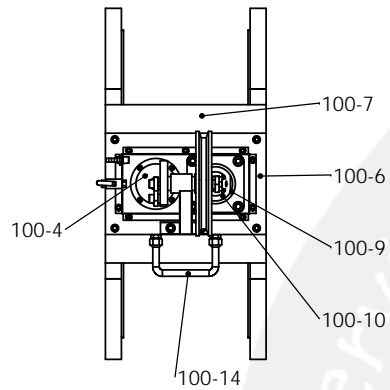
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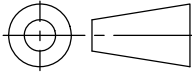
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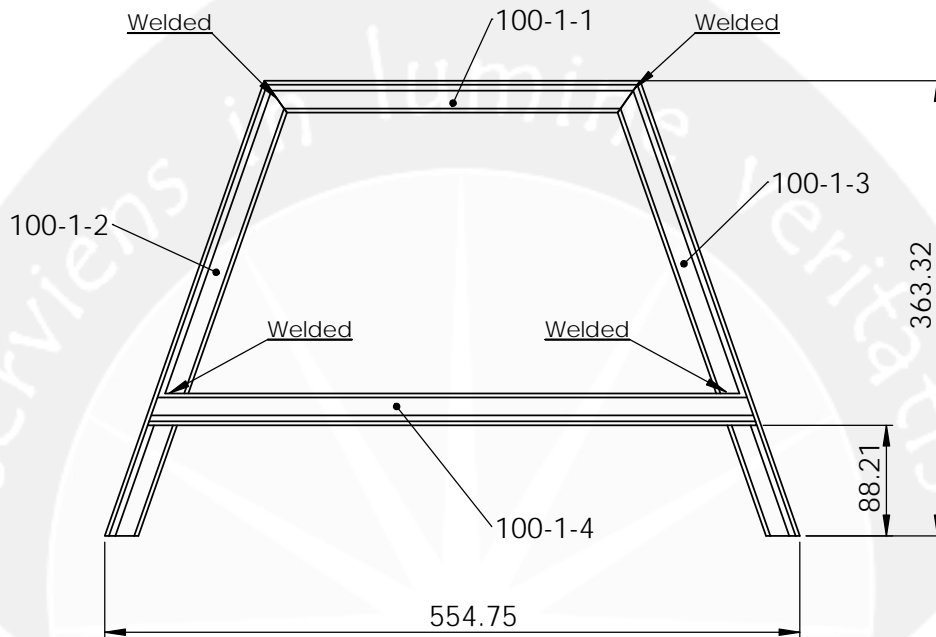
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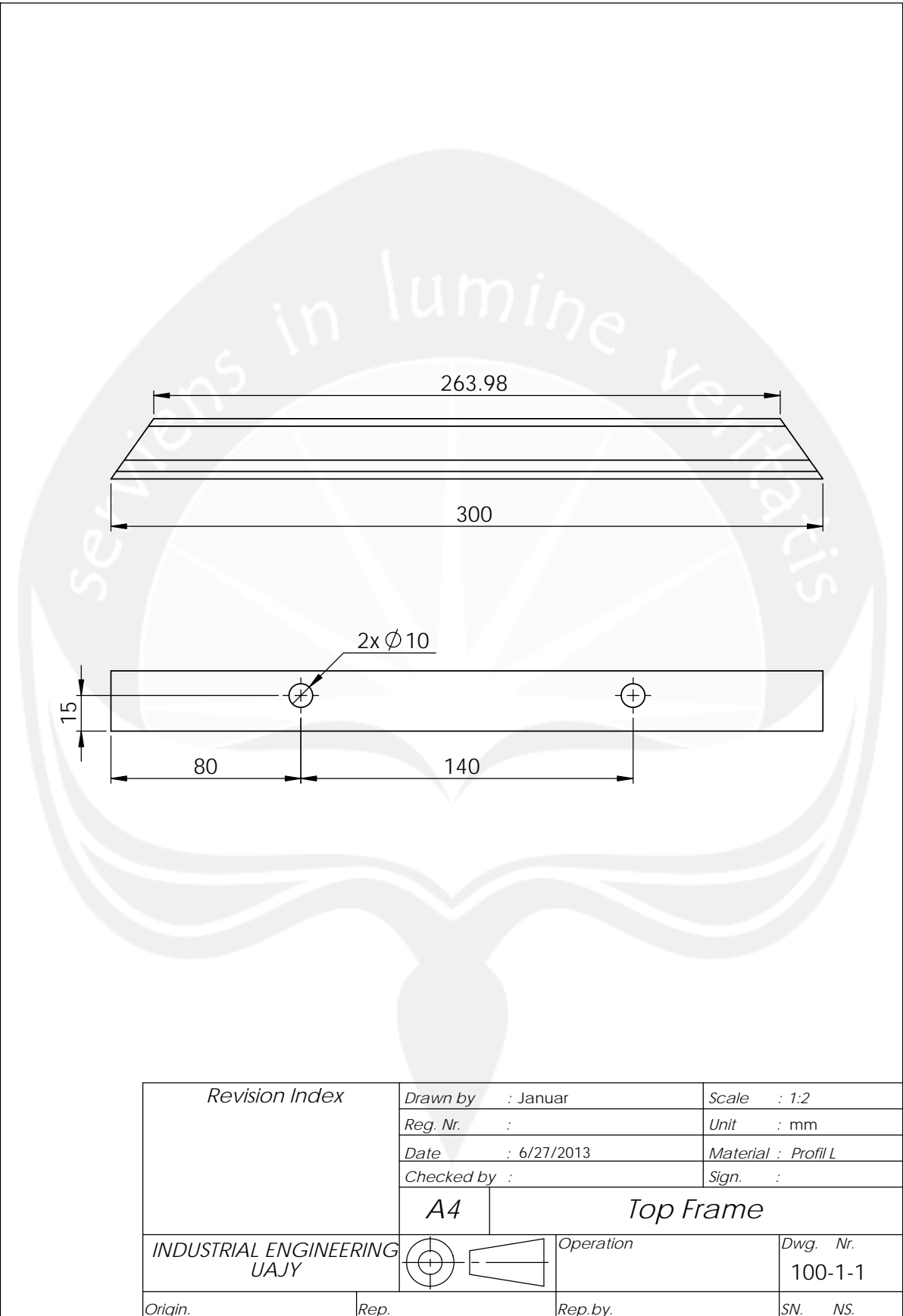


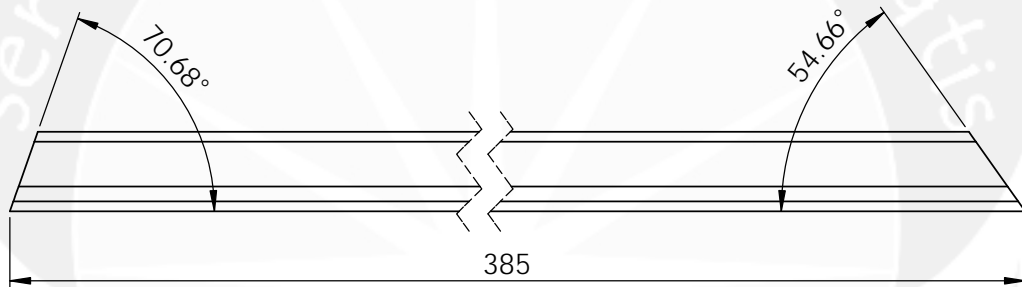
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		Date : 6/27/2013		Material :	
		Checked by :		Sign. :	
		A4		ASSEMBLY STIRLING	
INDUSTRIAL ENGINEERING UAJY				Operation	
Origin.		Rep.		Rep. by.	
				Dwg. Nr. 100	
				SN. NS.	


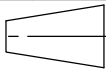
1	Shaft	100-18	St. 60			
1	Spacer 2	100-17	Ms			
2	Spacer 1	100-16	Ms			
1	Flywheel	100-15			Stock	
1	Refrigerator	100-14	Copper Pipe		Stock	
1	Eksentris	100-13	Ms			
1	Power Piston Crankshaft	100-12	Al			
1	Displacer Crankshaft	100-11	Al			
1	Power Piston	100-10			Stock	
1	Power Piston Cylinder	100-9	Cast Steel			
1	Coolant Box	100-8	Al. Sheet			
1	Gasket	100-7			Stock	
1	Base Plate	100-6	Al			
1	Piston Displacer	100-5	St.St			
1	Upper Displacer Cylinder	100-4	St.st			
1	Lower Displacer Cylinder	100-3	St.St			
1	Stand	100-2				
1	Frame	100-1	Profil L			
<i>Pieces</i>	<i>Description</i>	<i>Item</i>	<i>Material</i>	<i>Dimension</i>	<i>Remarks</i>	
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		<i>Checked by :</i>		<i>Sign. :</i>		
		A4	Part List			
INDUSTRIAL ENGINEERING				<i>Operation</i>		<i>Dwg. Nr.</i>
UAJY						100
<i>Origin.</i>		<i>Rep.</i>		<i>Rep.by.</i>		<i>SN. NS.</i>

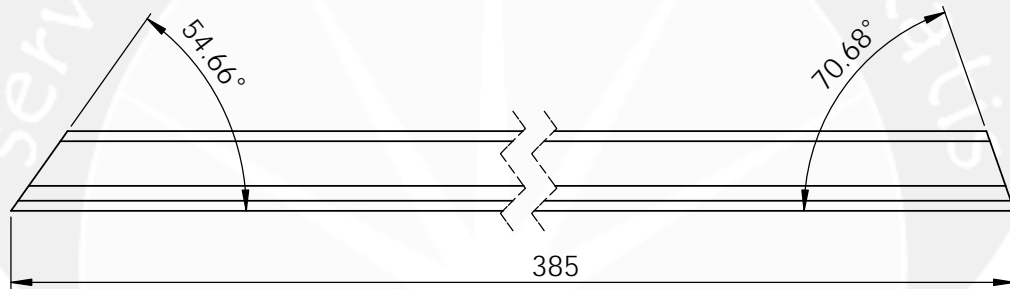



1	Bottom Frame	100-1-4	Profil L		
1	Side Frame 2	100-1-3	Profil L		
1	Side Frame 1	100-1-2	Profil L		
1	Top Frame	100-1-1	Profil L		
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		<i>Checked by</i> :		<i>Sign.</i> :	
		A4	Frame		
INDUSTRIAL ENGINEERING UAJY				<i>Operation</i>	
				<i>Dwg. Nr.</i> 100-1	
<i>Origin.</i>		<i>Rep.</i>		<i>Rep.by.</i>	
				<i>SN.</i> <i>NS.</i>	

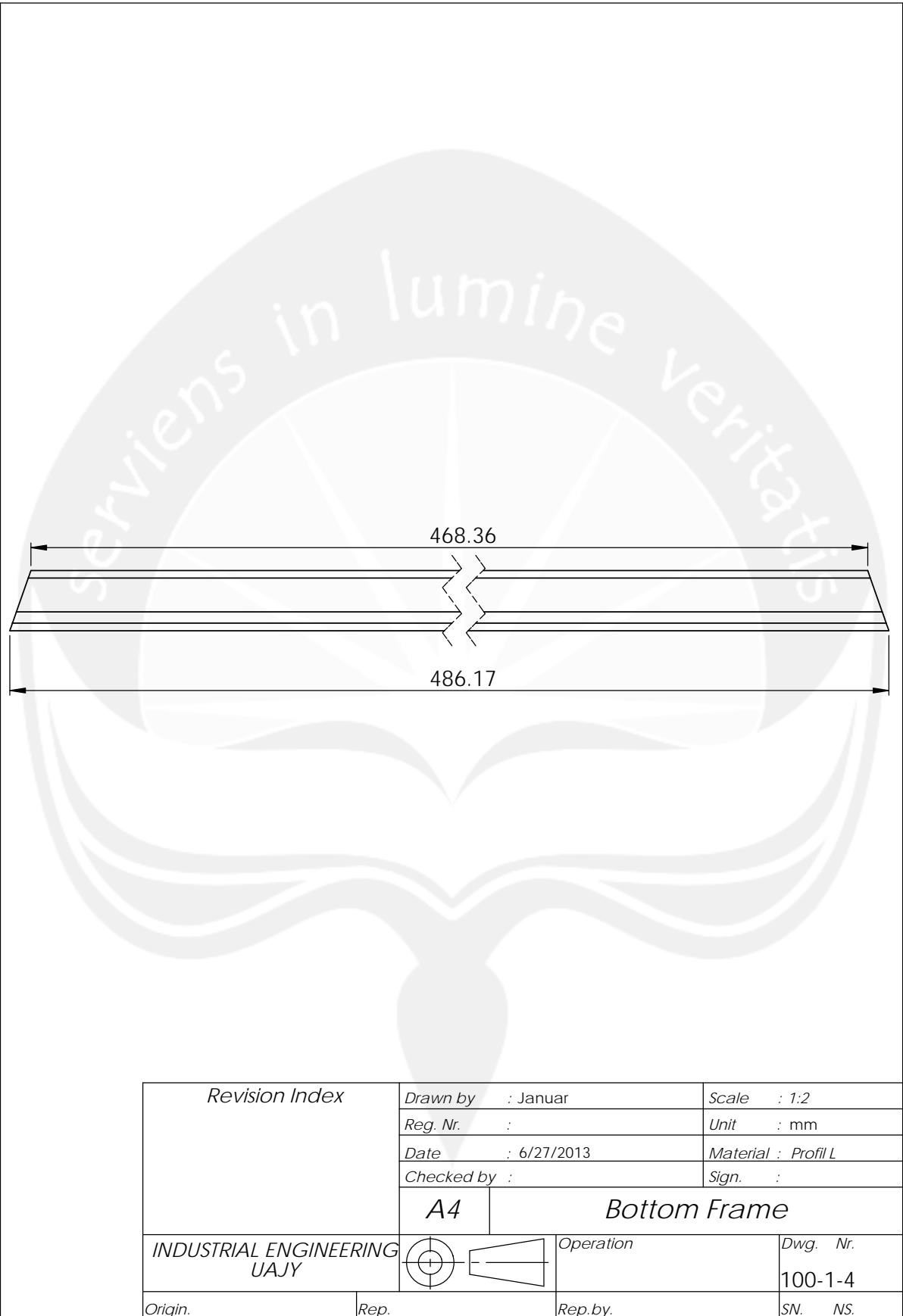




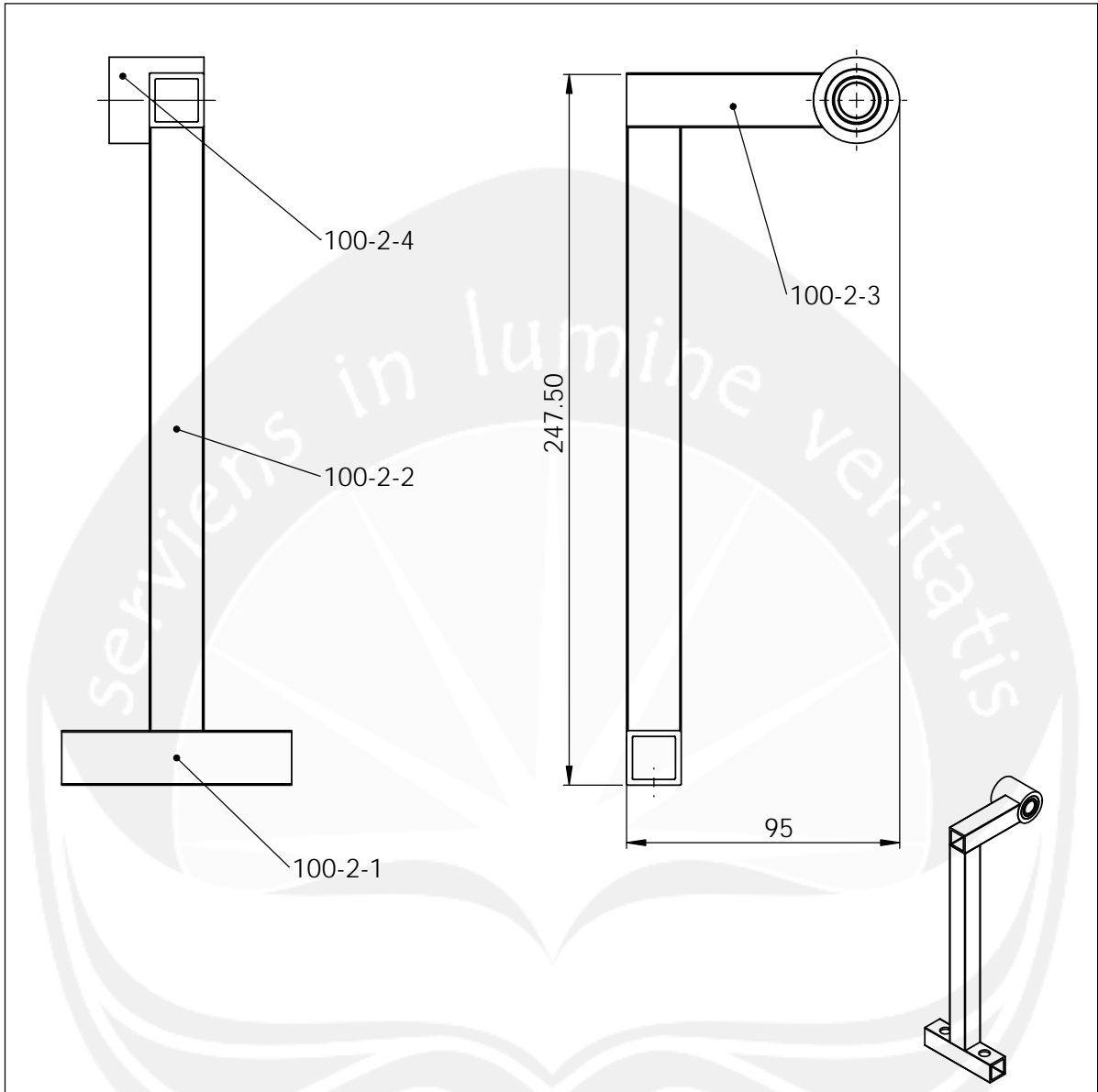
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	<i>Date</i> : 6/27/2013		<i>Material</i> : Profil L	
	<i>Checked by</i> :		<i>Sign.</i> :	
A4		Side Frame 1		
INDUSTRIAL ENGINEERING UAJY			<i>Operation</i>	<i>Dwg. Nr.</i> 100-1-2
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i>	<i>NS.</i>



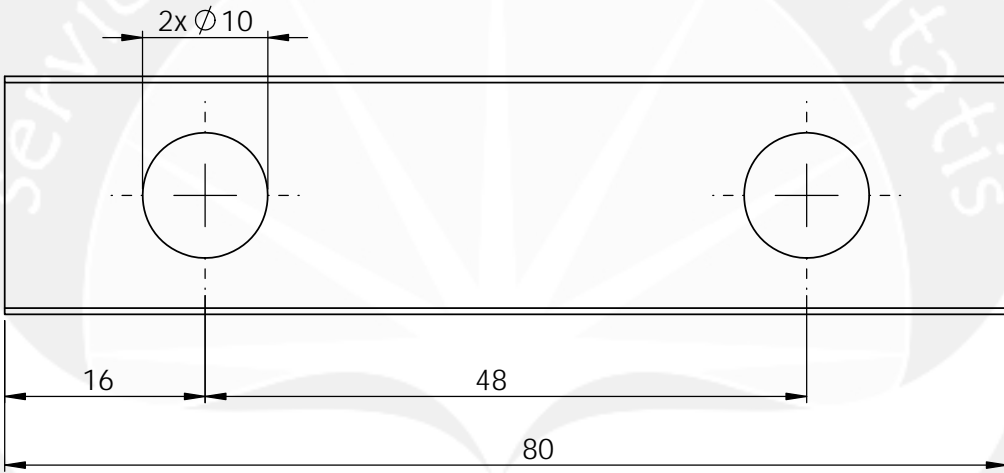
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	<i>Checked by</i> :		<i>Sign.</i> :
A4		Side Frame 2	
INDUSTRIAL ENGINEERING UAJY		<i>Operation</i>	<i>Dwg. Nr.</i> 100-1-3
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i> <i>NS.</i>



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	<i>Date</i> : 6/27/2013		<i>Material</i> : Profil L	
	<i>Checked by</i> :		<i>Sign.</i> :	
<i>A4</i>		<i>Bottom Frame</i>		
<i>INDUSTRIAL ENGINEERING UAJY</i>		<i>Operation</i>		<i>Dwg. Nr.</i> 100-1-4
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i>	<i>NS.</i>

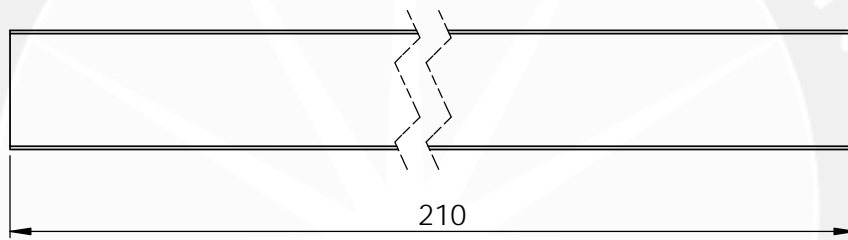


1	Stand Frame 4	4	St. 60		100-2-4
1	Stand Frame 3	3	Square Pipe		100-2-3
1	Stand Frame 2	2	Square Pipe		100-2-2
1	Stand Frame 1	1	Square Pipe		100-2-1
<i>Pieces</i>	<i>Description</i>	<i>Item</i>	<i>Material</i>	<i>Dimension</i>	<i>Remarks</i>
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		<i>Date</i> : 6/27/2013		<i>Material</i> :	
		<i>Checked by</i> :		<i>Sign.</i> :	
		A4	Stand		
INDUSTRIAL ENGINEERING UAJY			Operation		<i>Dwg. Nr.</i> 100-2
<i>Origin.</i>		<i>Rep.</i>		<i>Rep.by.</i>	
				SN. NS.	

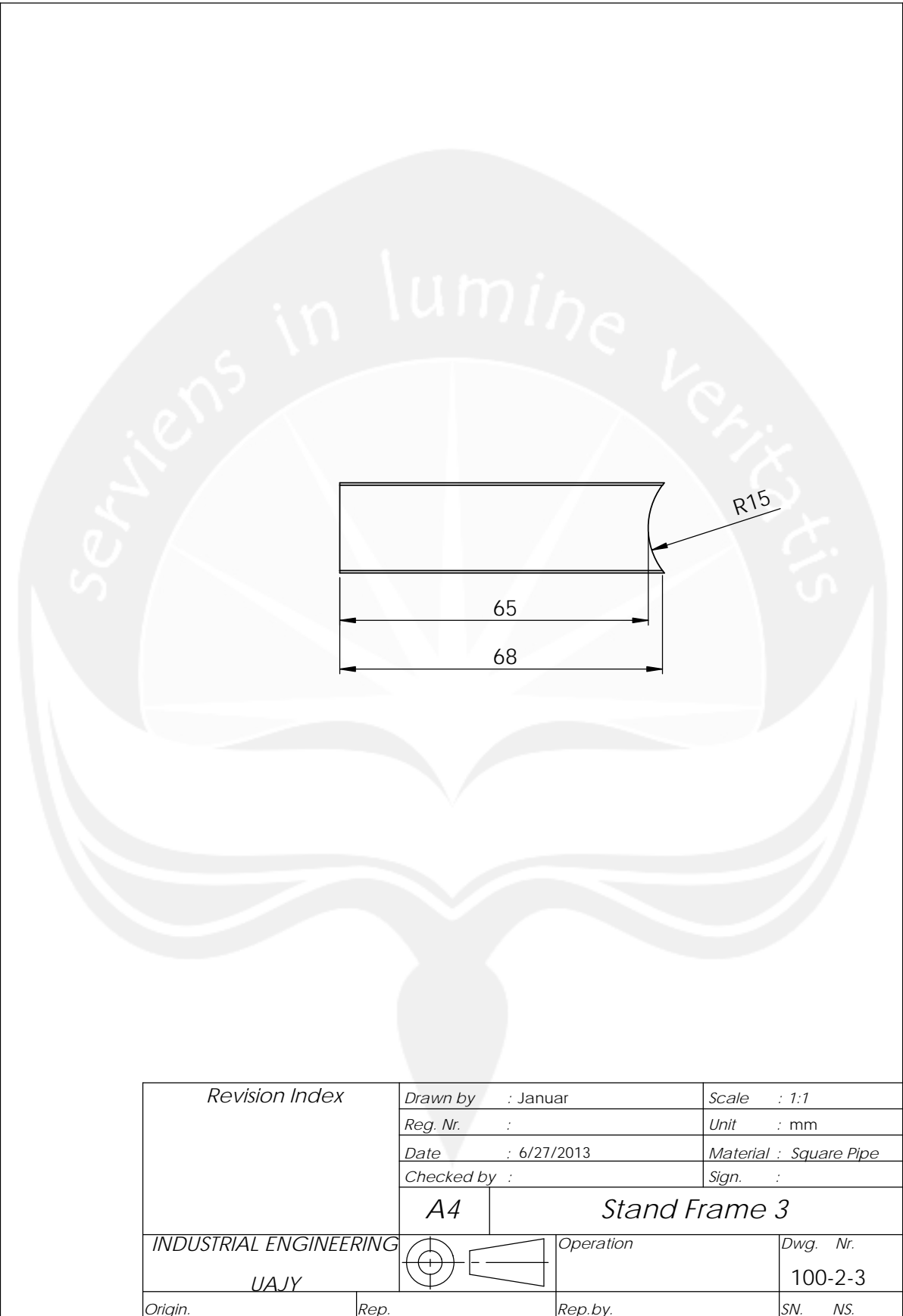


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Origin.	Rep.	Rep.by.	SN. NS.

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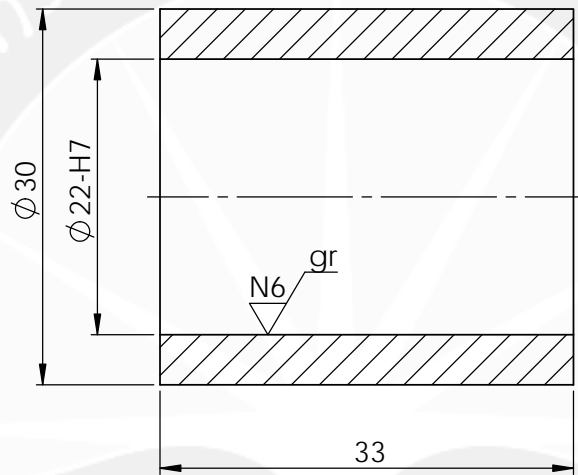


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	Checked by :		Sign. :
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Origin.	Rep.	Rep.by.	SN. NS.

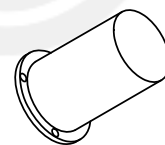
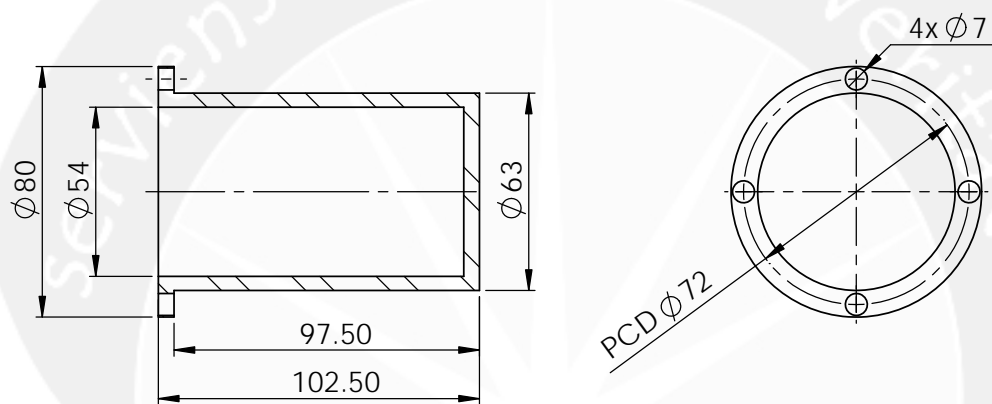


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	<i>Checked by</i> :		<i>Sign.</i> :
A4		Stand Frame 3	
<i>INDUSTRIAL ENGINEERING</i>		<i>Operation</i>	<i>Dwg. Nr.</i>
<i>UAJY</i>			100-2-3
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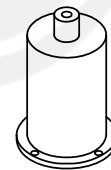
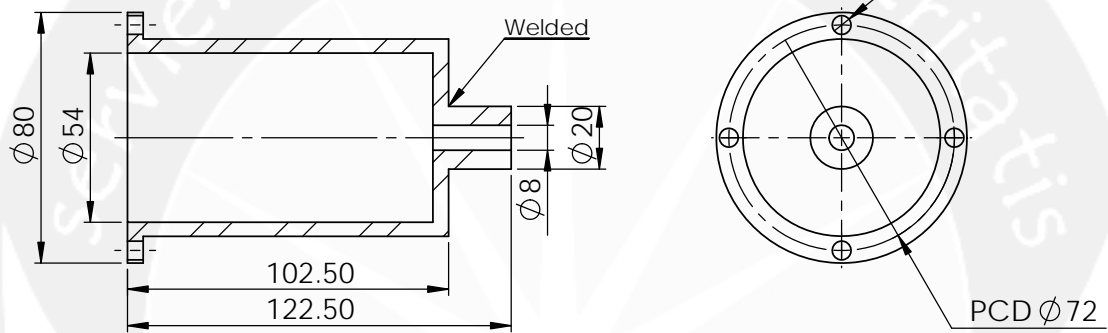
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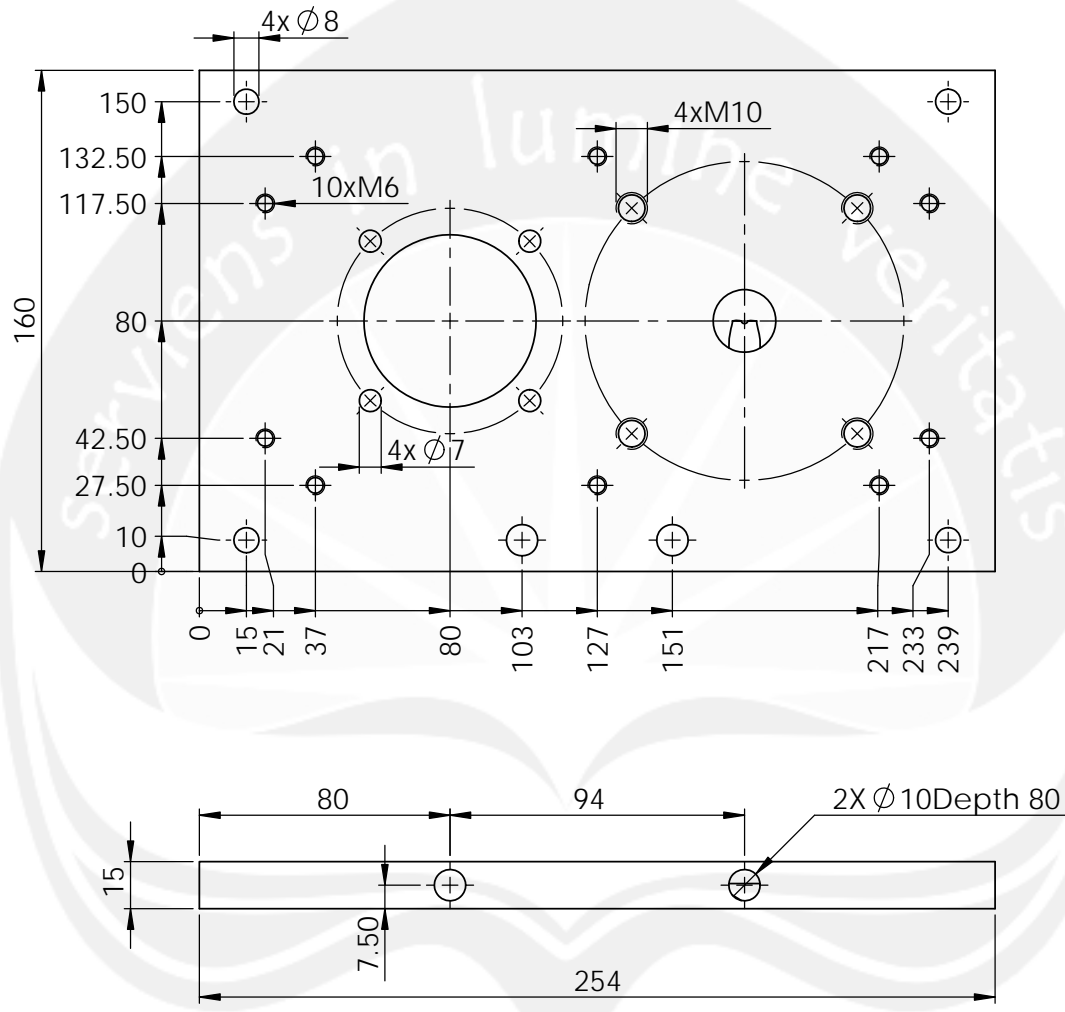
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	<i>Date</i> : 6/21/2013		<i>Material</i> : St. 60	
	<i>Checked by</i> :		<i>Sign.</i> :	
	A4	Stand Frame 4		
<i>INDUSTRIAL ENGINEERING</i> <i>UAJY</i>		<i>Operation</i>		<i>Dwg. Nr.</i> 100-2-4
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>		<i>SN.</i> <i>NS.</i>



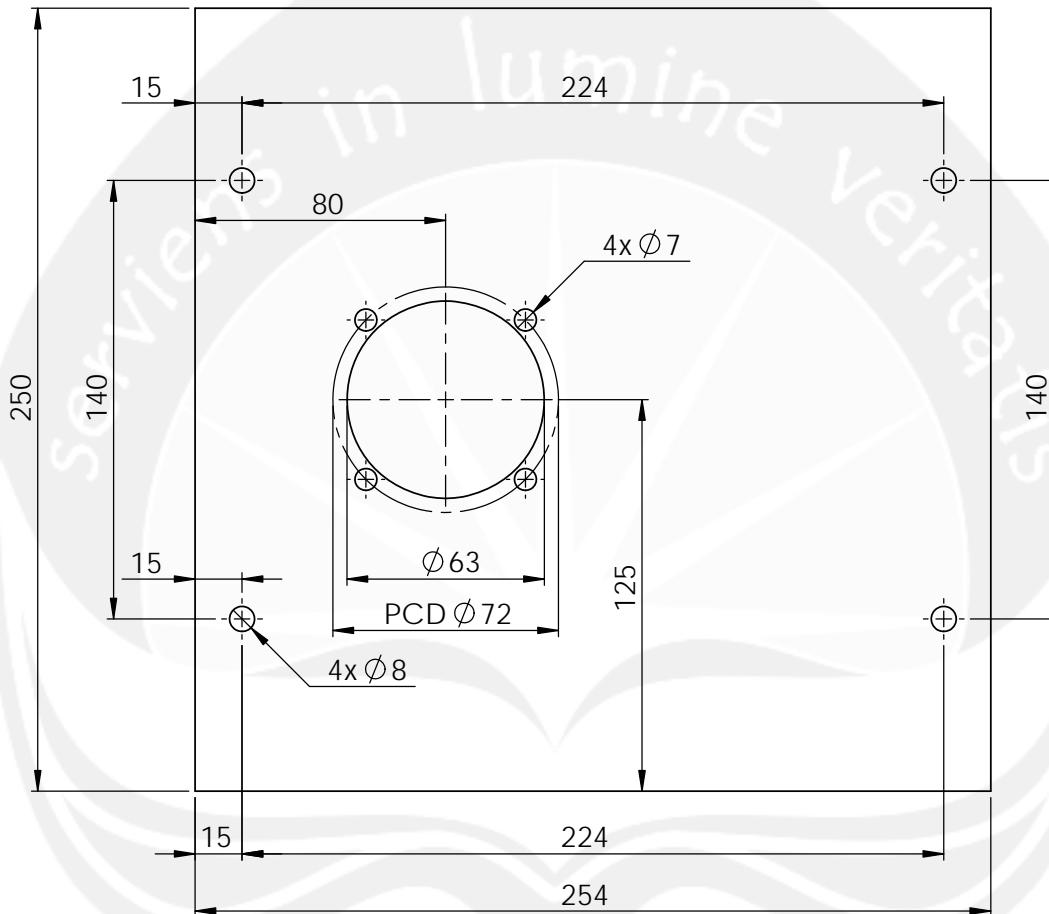
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	Checked by :		Sign. :
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INDUSTRIAL ENGINEERING UAJY		Operation	Dwg. Nr. 100-3
Origin.	Rep.	Rep.by.	SN. NS.

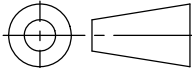


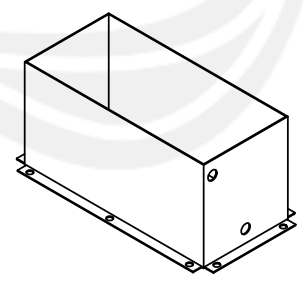
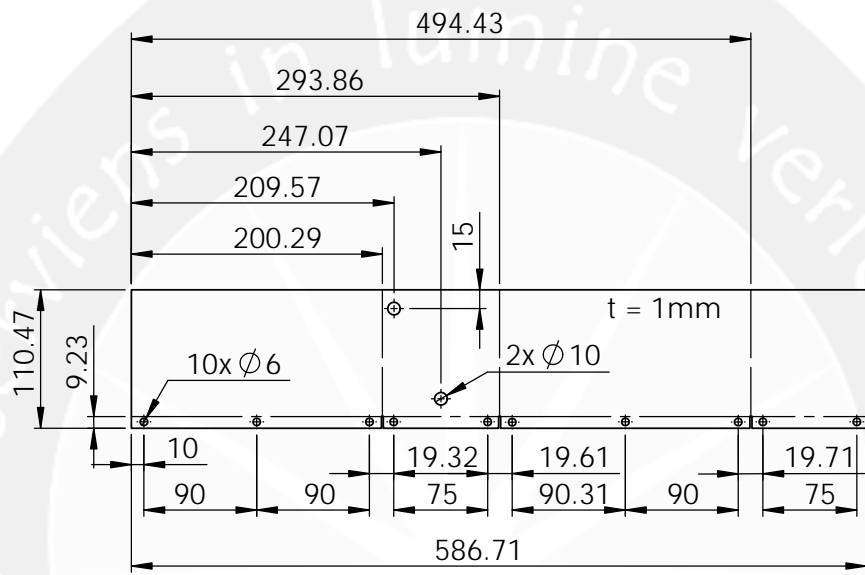
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	<i>Checked by</i> :		<i>Sign.</i> :	
A4		<i>Upper Displacer Cylinder</i>		
<i>INDUSTRIAL ENGINEERING UAJY</i>		<i>Operation</i>		<i>Dwg. Nr.</i> 100-4
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i>	<i>NS.</i>



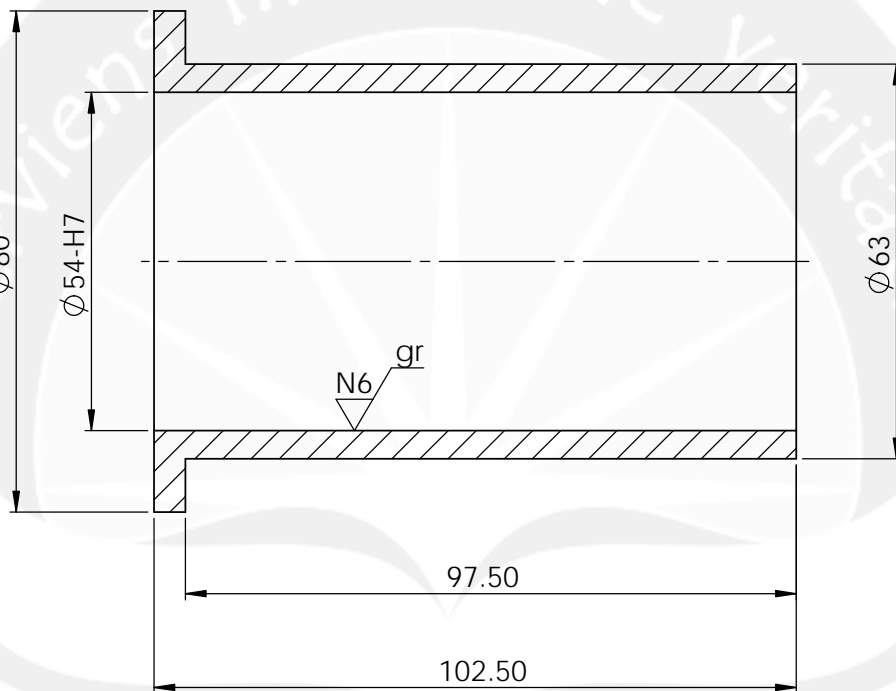
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INDUSTRIAL ENGINEERING UAJY		Operation
Origin.	Rep.	Dwg. Nr. 100-6
	Rep.by.	SN. NS.

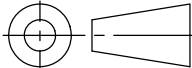


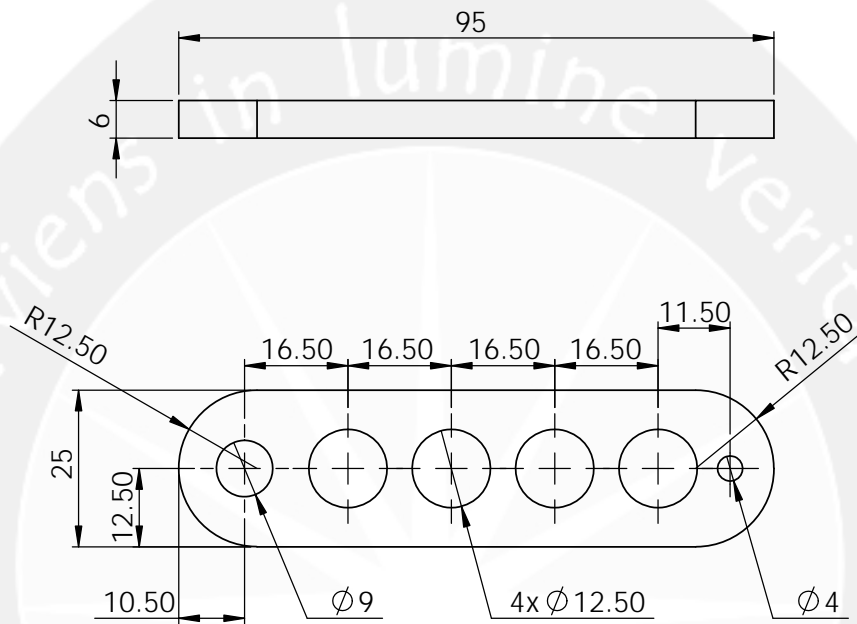
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	<i>Checked by</i> :	<i>Sign.</i> :	
	A4	Gasket	
INDUSTRIAL ENGINEERING UAJY		<i>Operation</i>	<i>Dwg. Nr.</i> 100-7
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i> <i>NS.</i>



<i>Revision Index</i>	<i>Drawn by</i> : Januar	<i>Scale</i> : 1:5	
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	<i>Date</i> : 6/21/2013	<i>Material</i> : Alumunium sheet	
	<i>Checked by</i> :	<i>Sign.</i> :	
	A4	Coolant box	
INDUSTRIAL ENGINEERING UAJY		<i>Operation</i>	<i>Dwg. Nr.</i> 100-8
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i> <i>NS.</i>

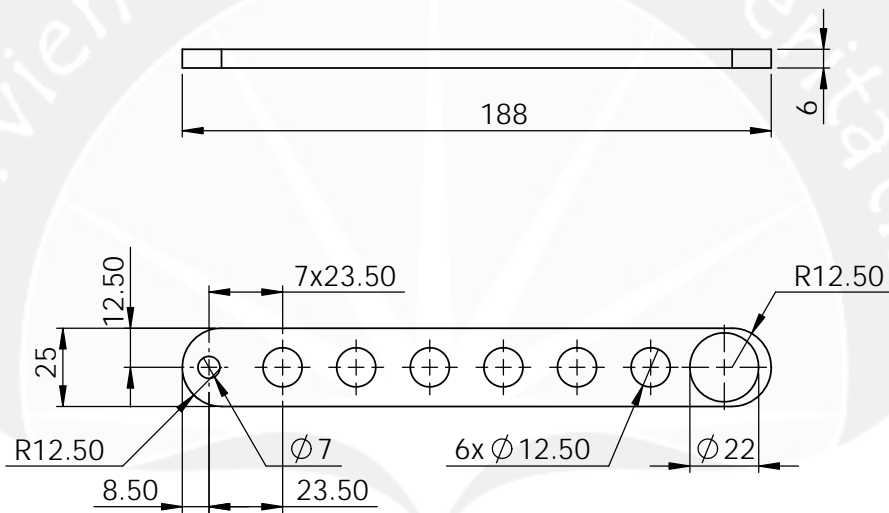


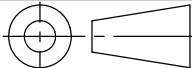
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	<i>Date</i> : 6/21/2013		<i>Material</i> : Cast steel		
	<i>Checked by</i> :		<i>Sign.</i> :		
		A4		Power Piston Cylinder	
<i>INDUSTRIAL ENGINEERING UAJY</i>				<i>Operation</i>	
				<i>Dwg. Nr.</i> 100-9	
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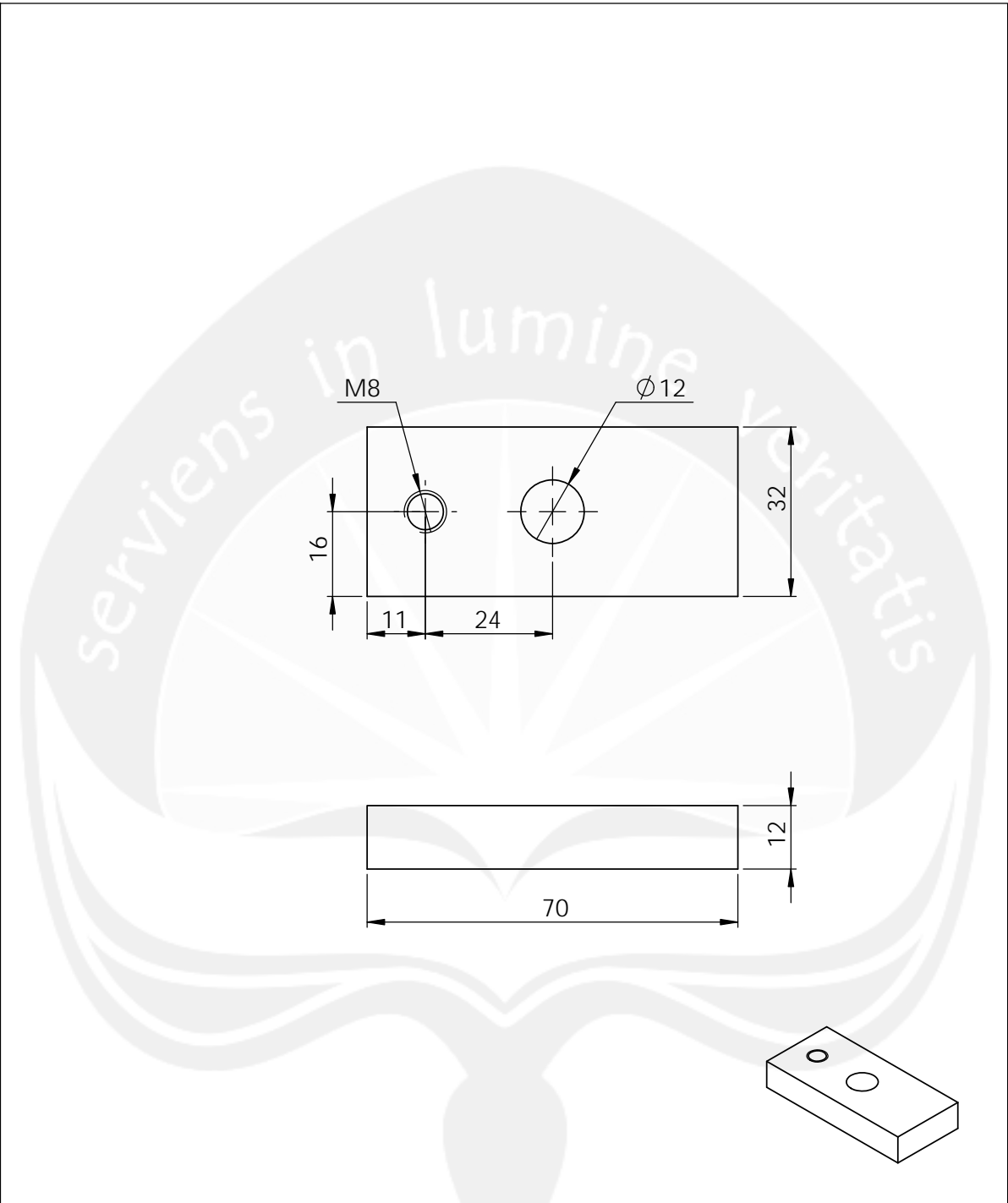


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	<i>Date</i> : 6/21/2013	<i>Material</i> : Alumunium
	<i>Checked by</i> :	<i>Sign.</i> :
A4		Displacer Crankshaft
INDUSTRIAL ENGINEERING UAJY		<i>Operation</i>
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>
		<i>Dwg. Nr.</i> 100-11 <i>SN.</i> <i>NS.</i>

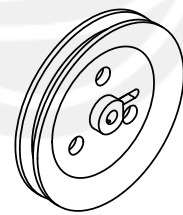
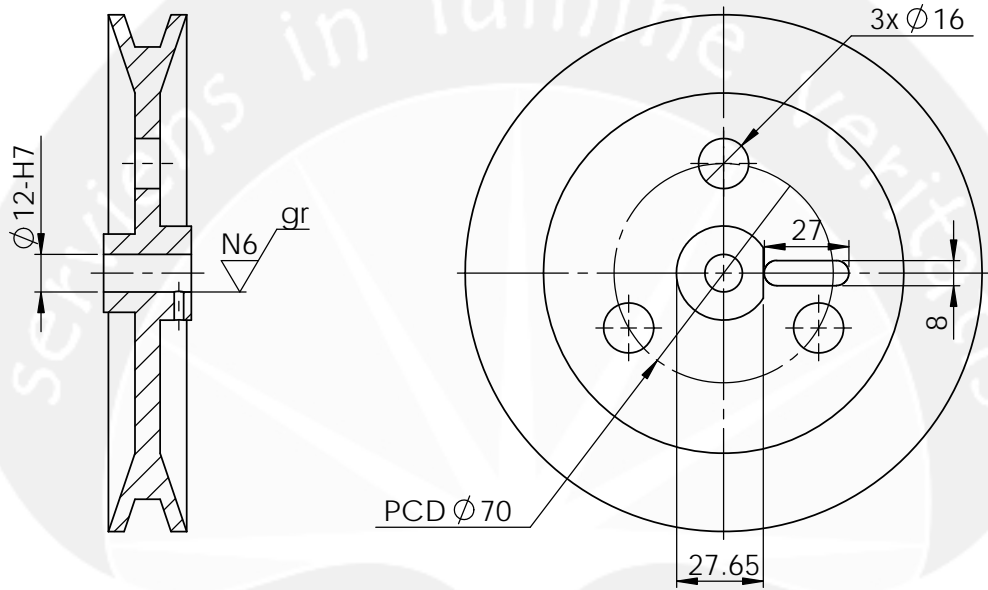
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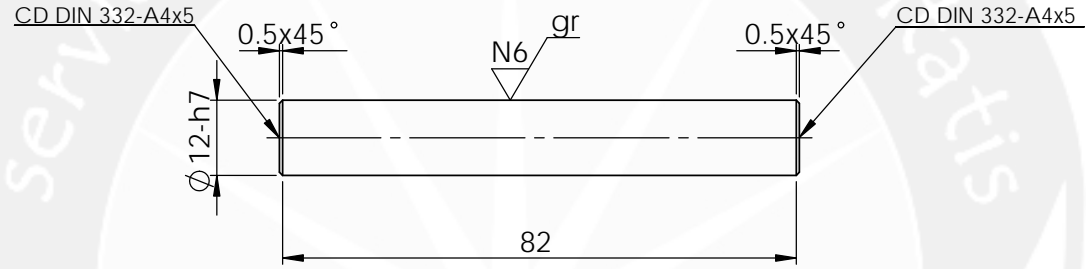
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	Checked by :	Sign. :
A4		Power Piston Crankshaft
INDUSTRIAL ENGINEERING UAJY		Operation
Origin.	Rep.	Dwg. Nr. 100-12
	Rep.by.	SN. NS.



<i>Revision Index</i>	<i>Drawn by</i> : Januar		<i>Scale</i> : 1:1	
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	<i>Checked by</i> :		<i>Sign.</i> :	
	A4	Eksentris		
<i>INDUSTRIAL ENGINEERING UAJY</i>		<i>Operation</i>		<i>Dwg. Nr.</i> 100-13
<i>Origin.</i>	<i>Rep.</i>	<i>Rep.by.</i>	<i>SN.</i>	<i>NS.</i>



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	Checked by :		Sign. :
A4		Flywheel	
INDUSTRIAL ENGINEERING UAJY		Operation	Dwg. Nr. 100-15
Origin.	Rep.	Rep.by.	SN. NS.



<i>Revision Index</i>	Drawn by : Januar		Scale : 1:1
	Reg. Nr. :		Unit : mm
	Date : 6/21/2013		Material : St 60
	Checked by :		Sign. :
A4		Shaft	
INDUSTRIAL ENGINEERING UAJY		Operation	Dwg. Nr. 100-18
Origin.	Rep.	Rep.by.	SN. NS.