

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Dari tahapan perancangan menggunakan metode rasional, penelitian ini mendapatkan sebuah hasil rancangan sesuai bobot nilai yang didapat dari metode *weighted objective*. Hasil rancangan mesin pemotong bahan baku cokelat kapasitas 5 kg yang didapat adalah pada desain dari kombinasi 1. Dengan spesifikasi mesin yang didapat yaitu:

- Kapasitas produksi pada perancangan mesin pemotong bahan baku cokelat yaitu sebesar 5 kg dengan waktu yang dibutuhkan selama 2 menit.
- Penggerak utama mesin menggunakan motor listrik AC 1 *phase* dengan daya 0,5 HP.
- Transmisi penerus putaran menggunakan transmisi sabuk puli dengan sabuk jenis V-Belt tipe A47.
- Dimensi rancangan mesin dengan ukuran panjang 630mm, lebar 400mm, dan tinggi 400mm.
- Prakiraan biaya yang dibutuhkan dalam menghasilkan mesin sebesar Rp 5.528.430.

6.2. Saran

Perancangan mesin pemotong bahan baku cokelat kapasitas 5 kg sudah memenuhi kebutuhan dari UKM X, namun pemotongan cokelat batangan tidak dapat dilakukan di ruang produksi yang tidak memiliki *air conditioner* (AC). Pengerjaan di ruang produksi tersebut dilakukan karena untuk memperlambat mencairnya cokelat batangan.

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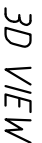
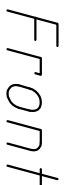
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2	Bolt M6x50	38	Std Part	-	
1	Tapper Bearing 30305	37	Std Part	-	
1	Ball Bearing 6007	36	Std Part	-	
6	Nut M6	35	Std Part	-	
4	Bolt 15x35	34	Std Part	-	
4	Bolt M4x8 Stainless	33	Std Part	-	
1	Transmissi	31	Aluminium	PC-1004-09	
1	Transmissi	30	P.Stainless	PC-1004-08	
1	Transmissi	29	S45C	PC-1004-07	
1	Transmissi	27	Aluminium	PC-1004-05	
1	Transmissi	26	Aluminium	PC-1004-04	
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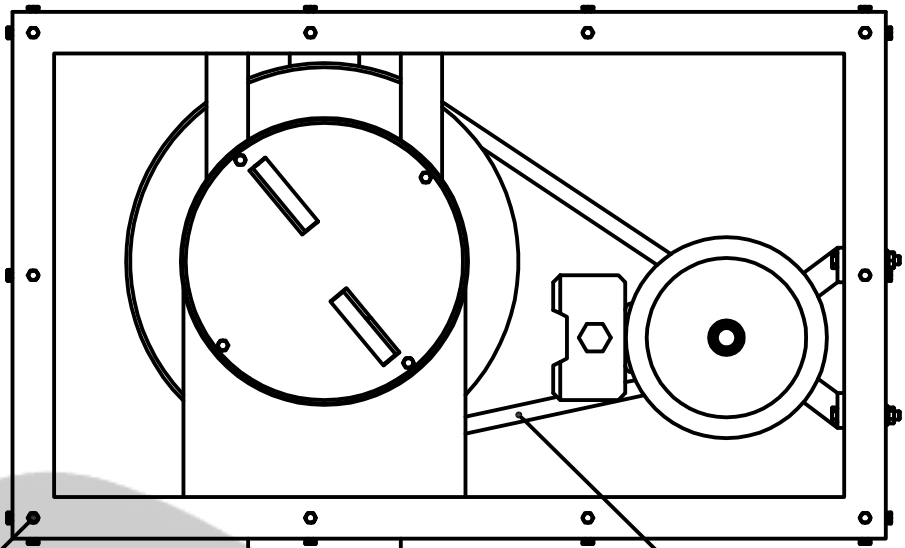
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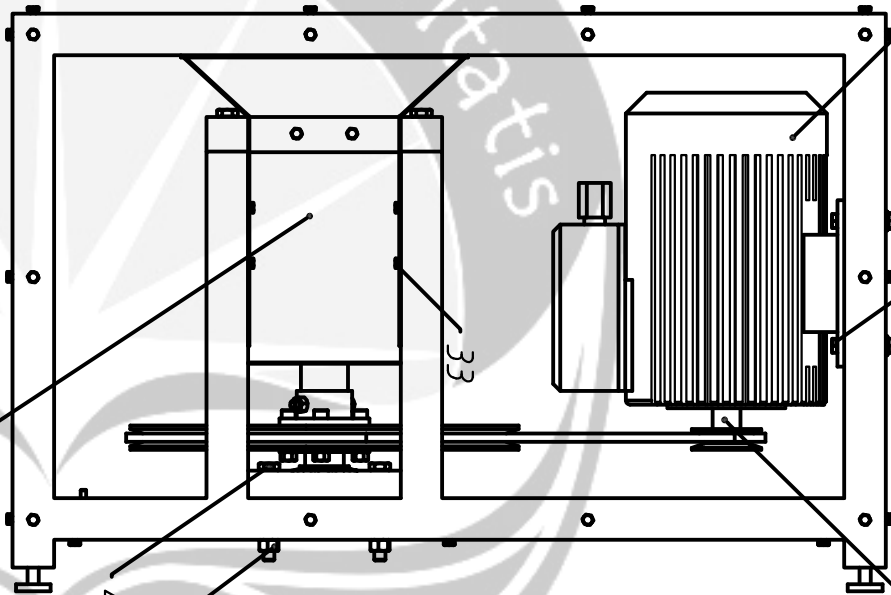
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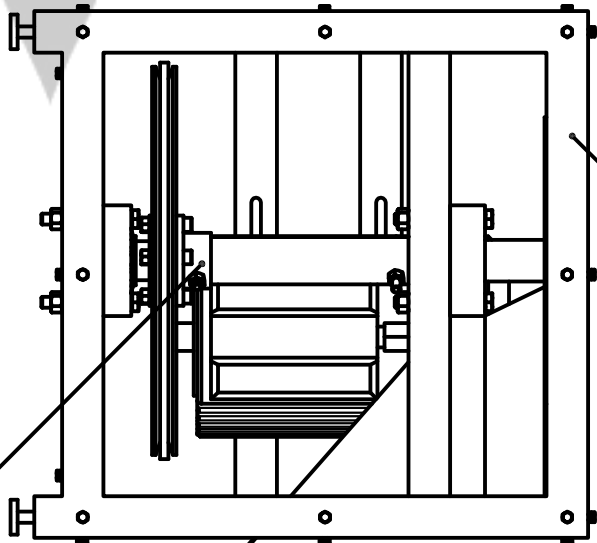
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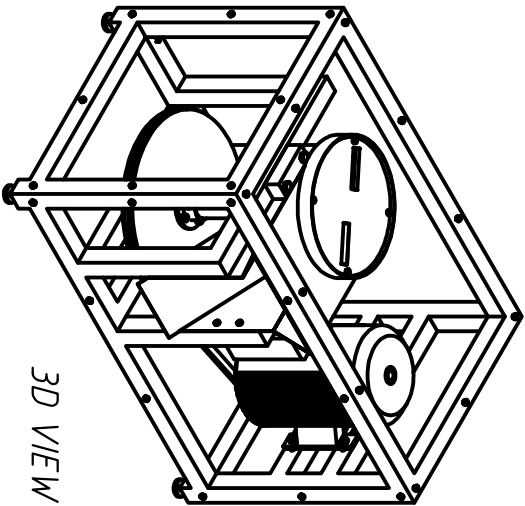
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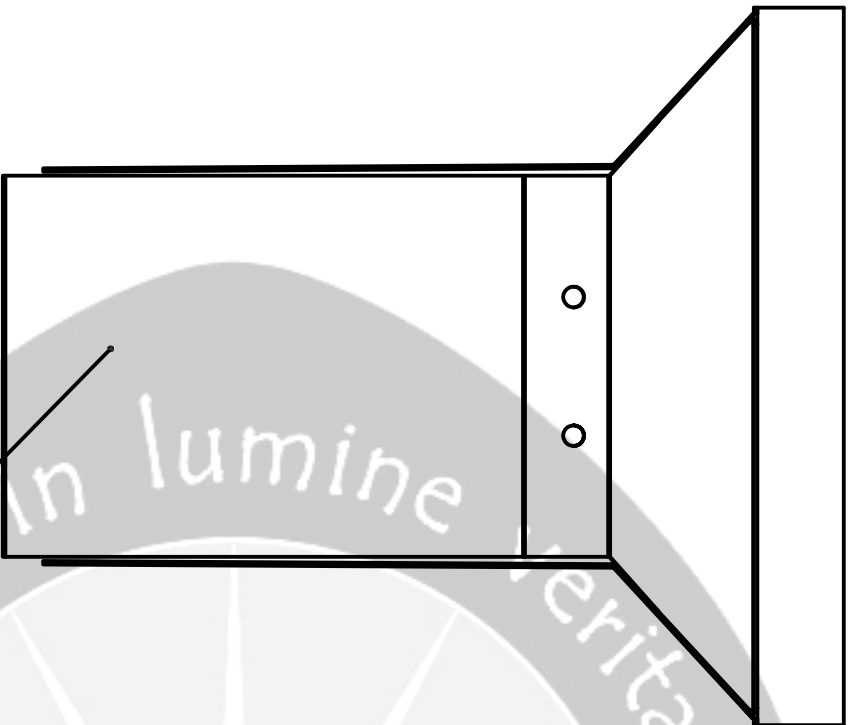
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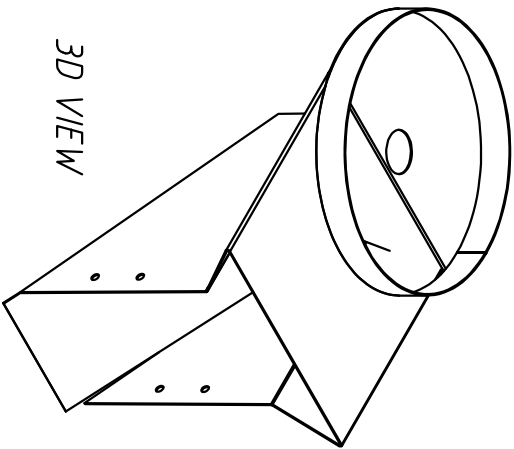
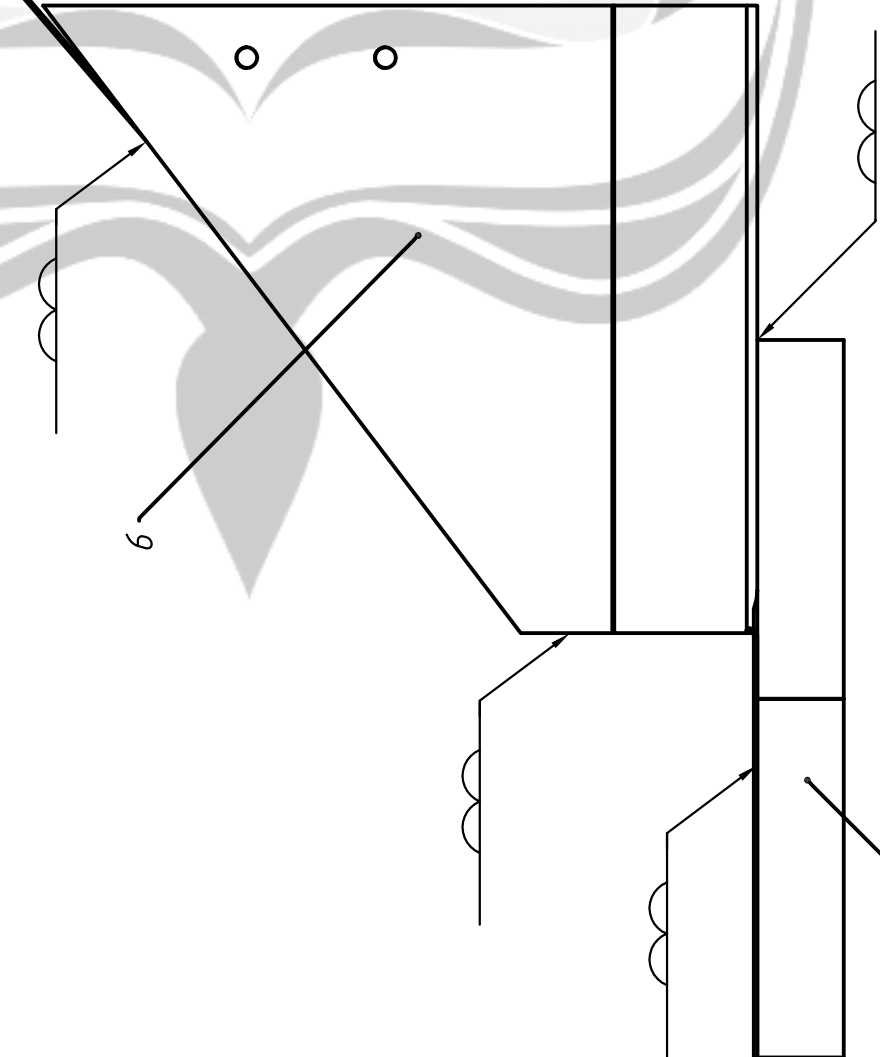
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4	Bolt M6x50	38	StdPart	-	
4	Nut M6	35	StdPart	-	
8	Nut M8	43	StdPart	-	
8	Bolt M6x70	42	StdPart	-	
1	Motor AC 0.5HP	41	StdPart	-	
55	Bolt M4x8	40	StdPart	-	
1	V-Belt A70	39	StdPart	-	
1	Cover Mata Potong	-	-	PC-1002	
1	Transmisi	-	-	PC-1004	
1	Rangka	-	-	PC-1001	
1	Transmisi	28	-	PC-1004-06	
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Projection's					
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Operation					



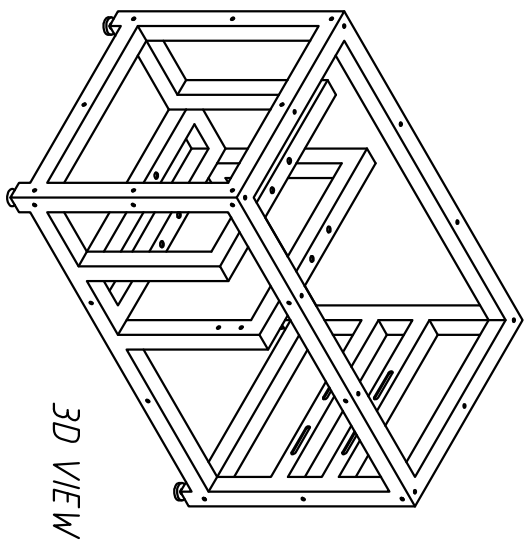
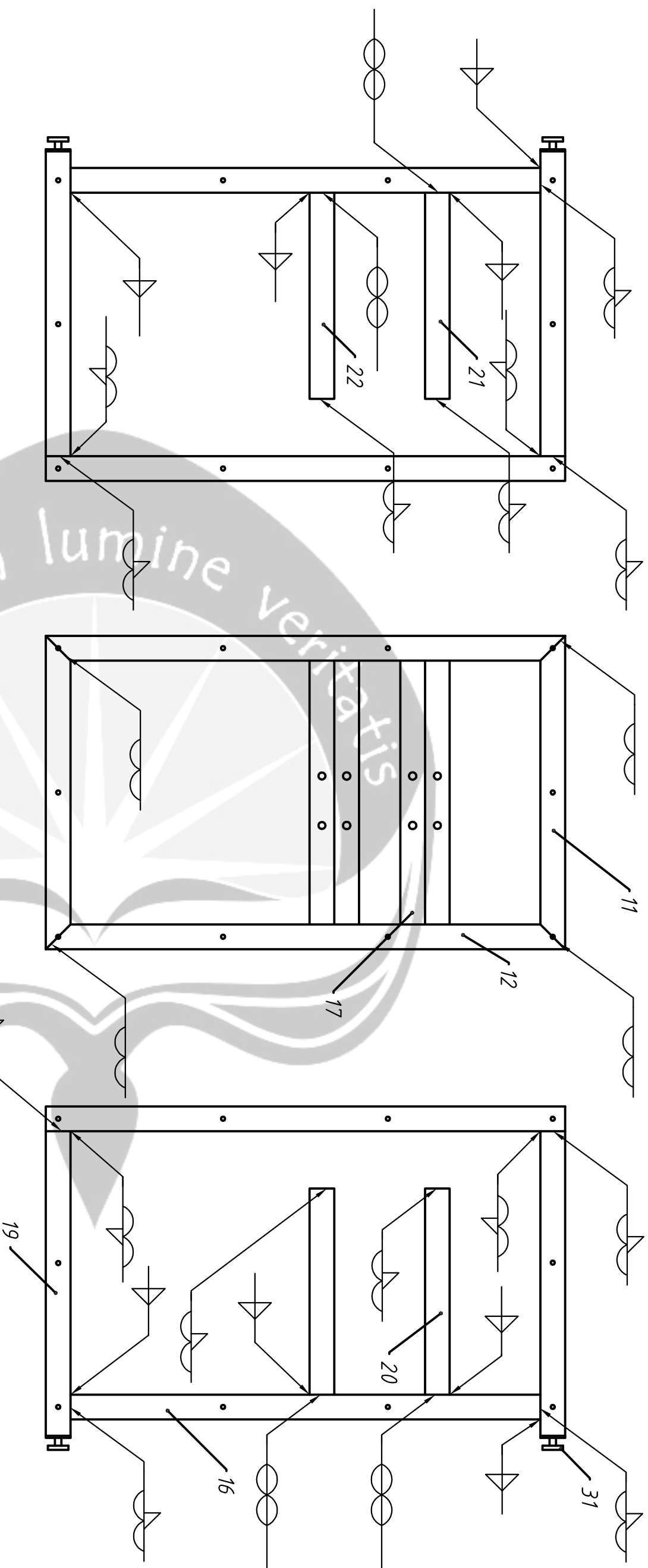
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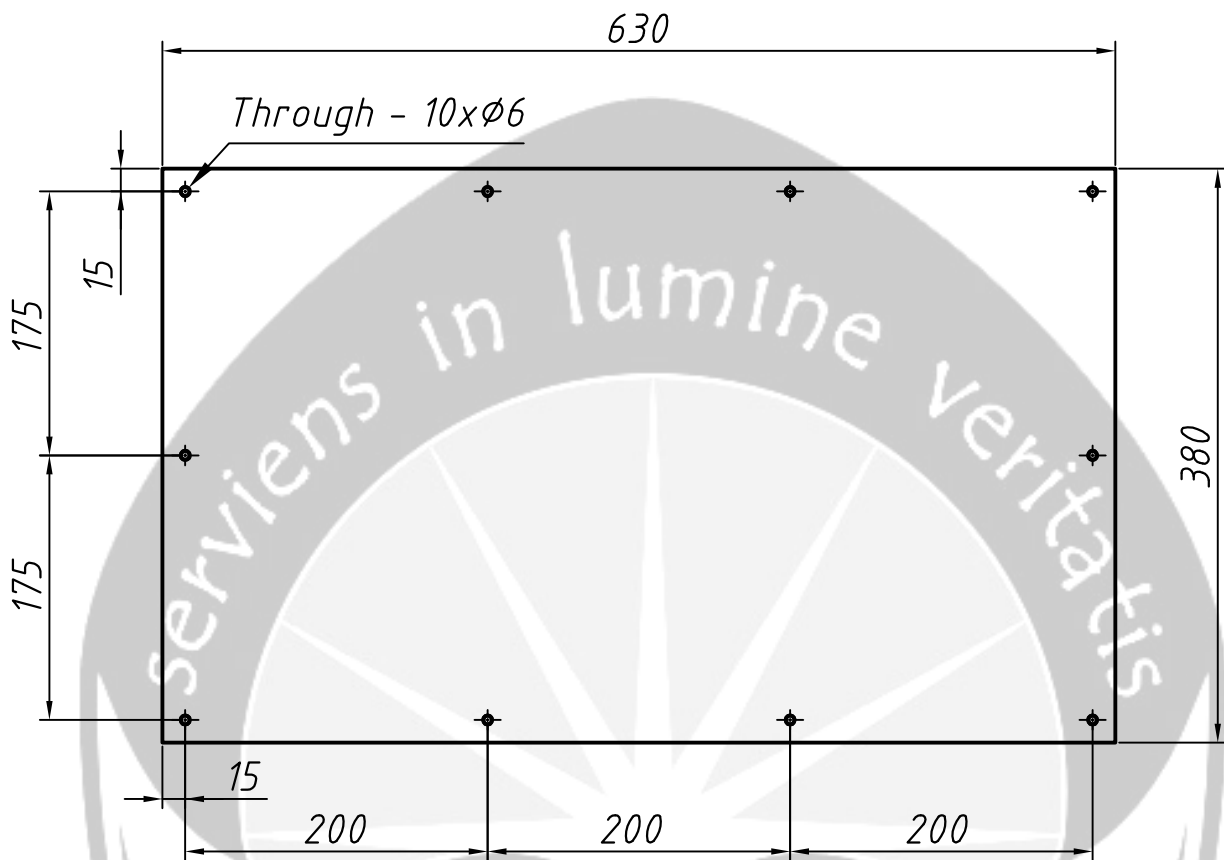
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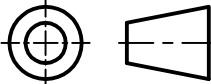
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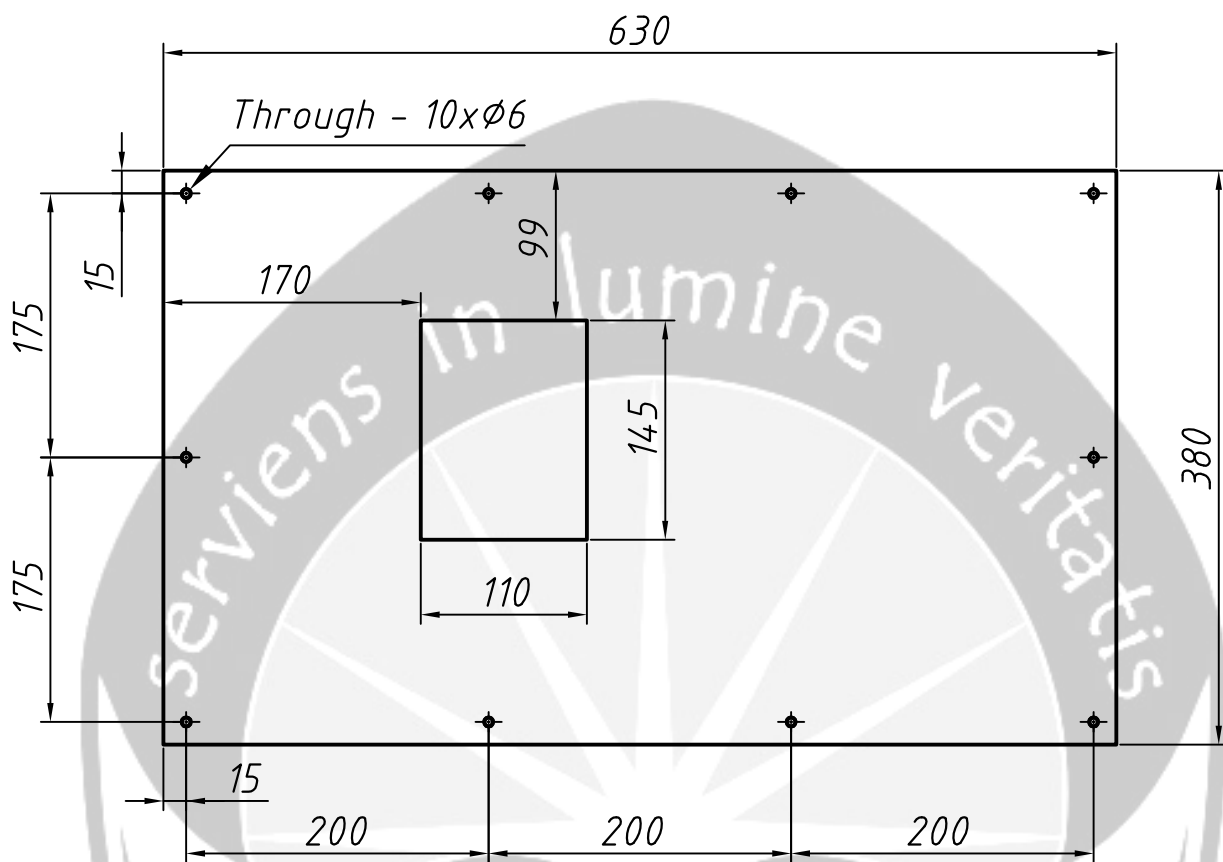


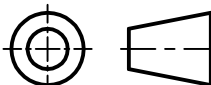
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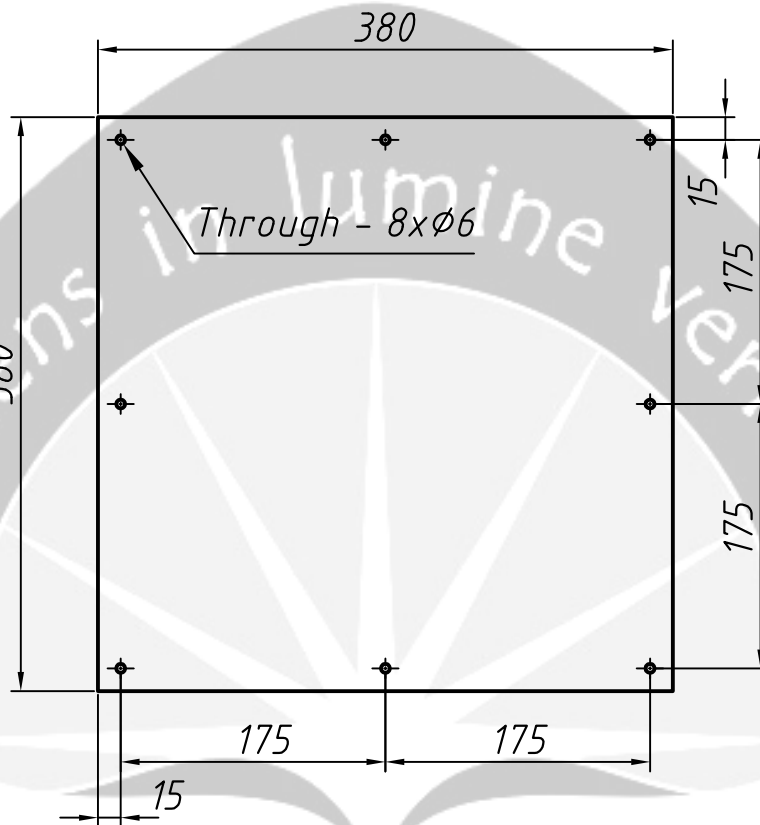
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2	Rangka	16	Hollow	PC-1001-13	
2	Rangka	15	Hollow	PC-1001-12	
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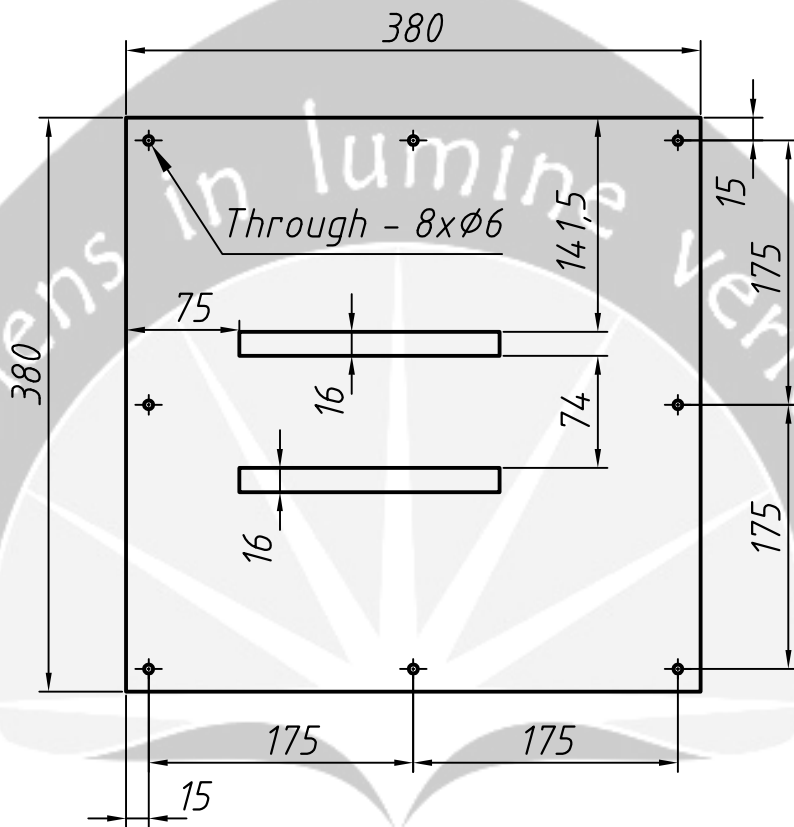
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Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.														
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		6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5		___ ± ___															
Tol.±							0.1	0.2	0.3	0.5	0.8	1.2	Title				Projection's										
											Mesin Pemotong Cokelat																
RI		RNo.		Date		Name		Detail of :																			
—		—		—		—		Tugas Akhir UAJY								Assy.				Dwg.Nr.							
—		—		—		—		Tahun 2017								PC-1003				PC-1003-01							
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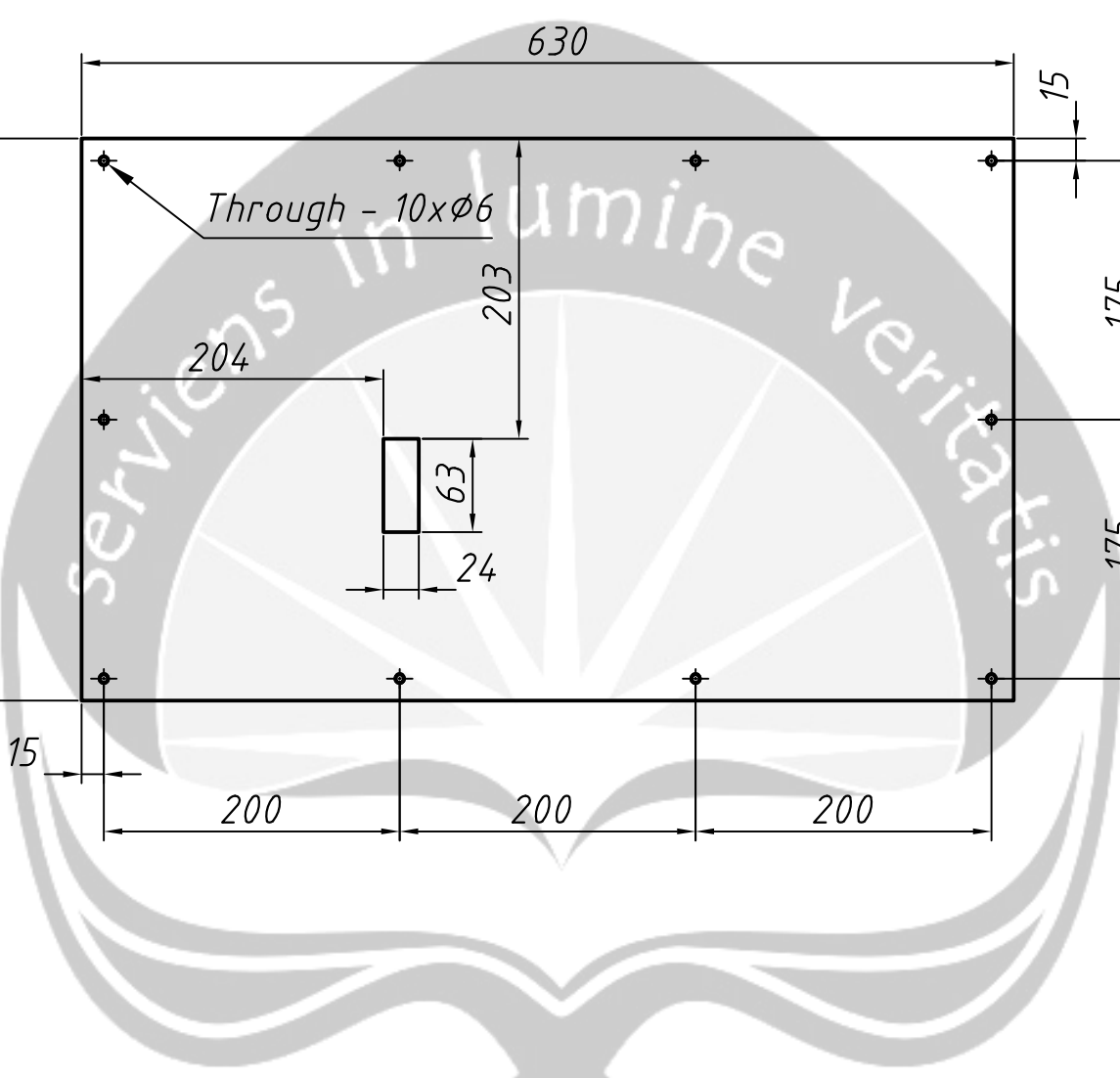
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		6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5		___ ± ___		-					
Tol.±							Title							Projection's					
							Mesin Pemotong Cokelat												
RI		RNo.		Date		Name		Detail of :											
								Tugas Akhir UAJY							Assy.		Dwg.Nr.		
								Tahun 2017							PC-1003		PC-1003-02		
Origin.							Register :				Wt :		MU :		SN :		NS :		

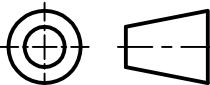


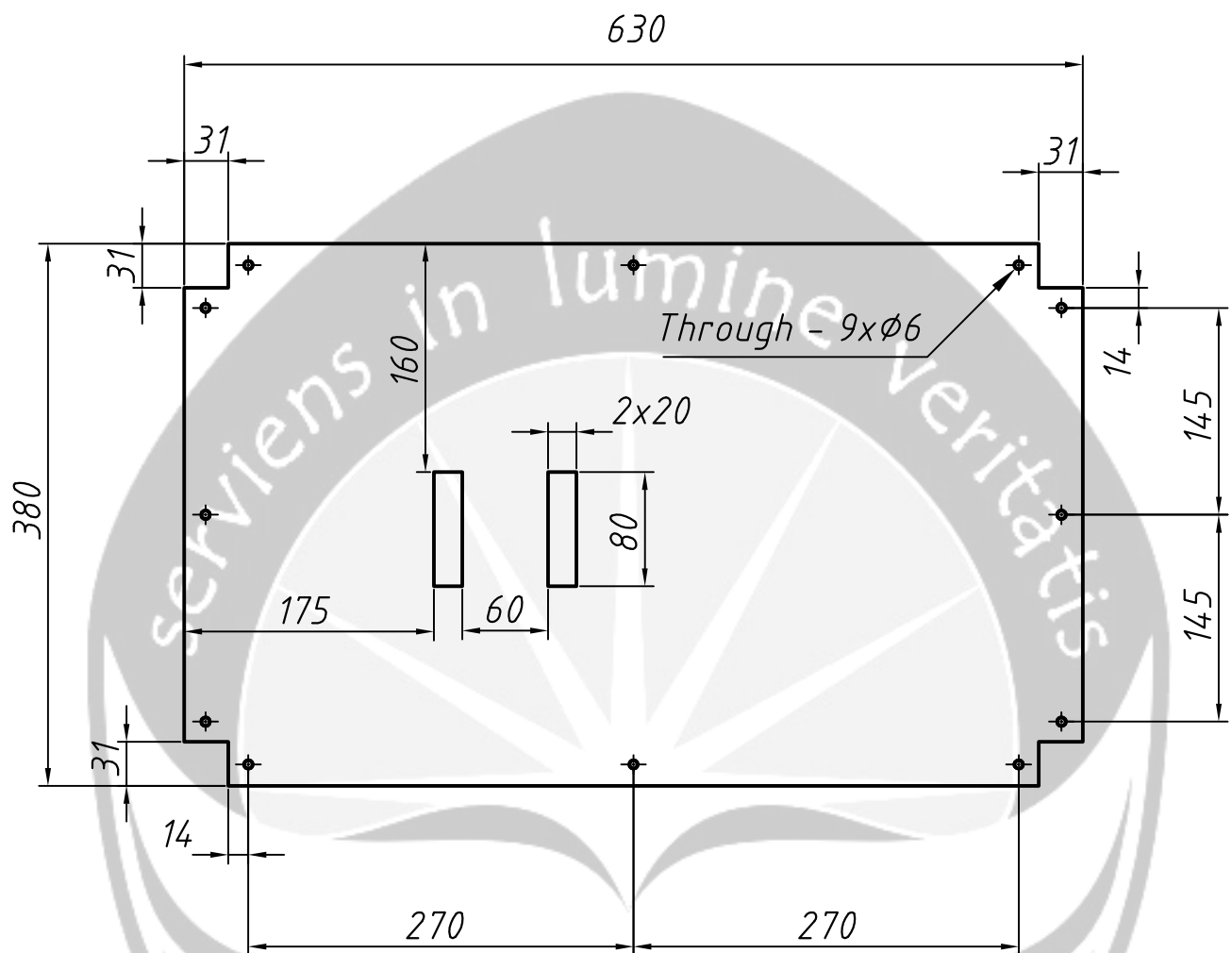
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Tahun 2017			Assy.			Dwg.Nr.
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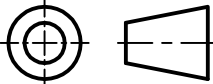


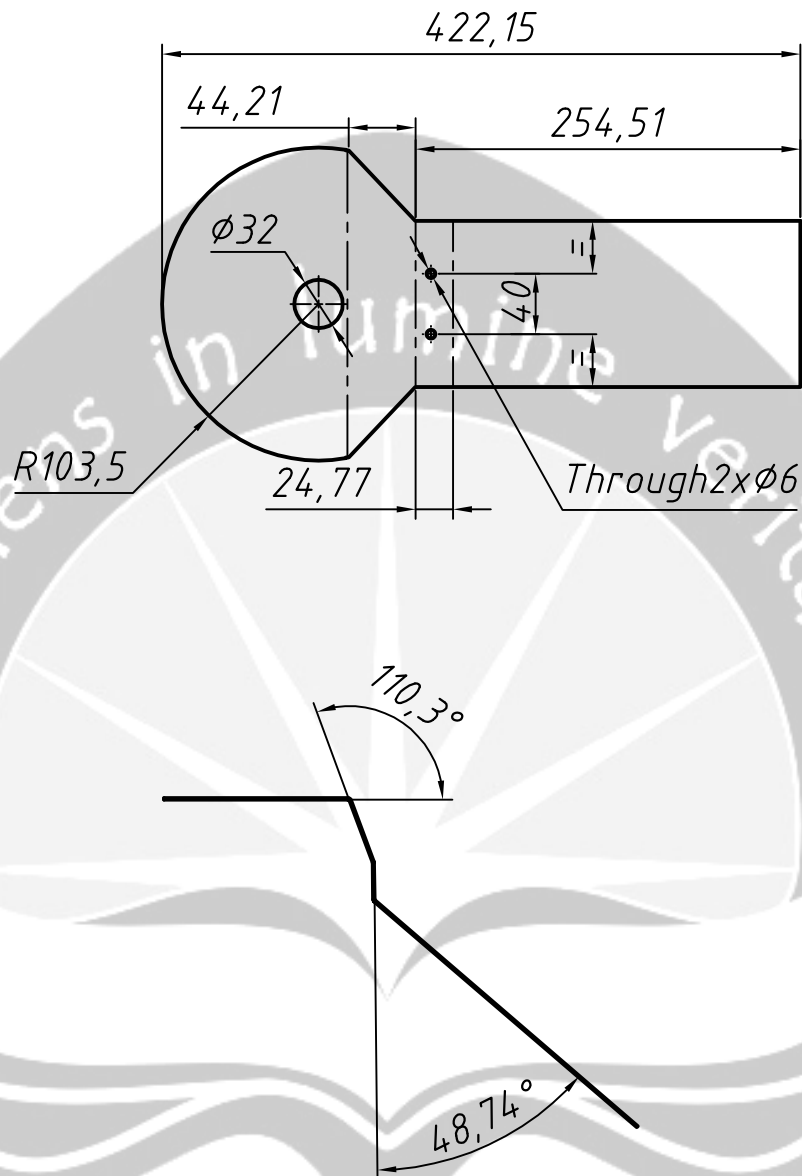
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Tol.±	0.1	0.2	0.3	0.5	0.8	1.2
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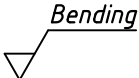
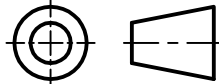


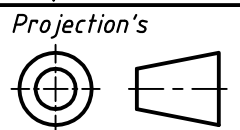
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Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.				
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4		Hard. HRC.		Item		Operation		
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :		___ ± ___		-		 Cutting Wheel		
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5								
Tol.±							Title							Projection's			
							Mesin Pemotong Cokelat										
RI		RNo.		Date		Name		Detail of :							Dwg.Nr.		
—		—		—		—		Tugas Akhir UAJY							Assy.		
—		—		—		—		Tahun 2017							PC-1003		
—		—		—		—									PC-1003-05		
Origin.							Register :			Wt :		MU :		SN :		NS :	

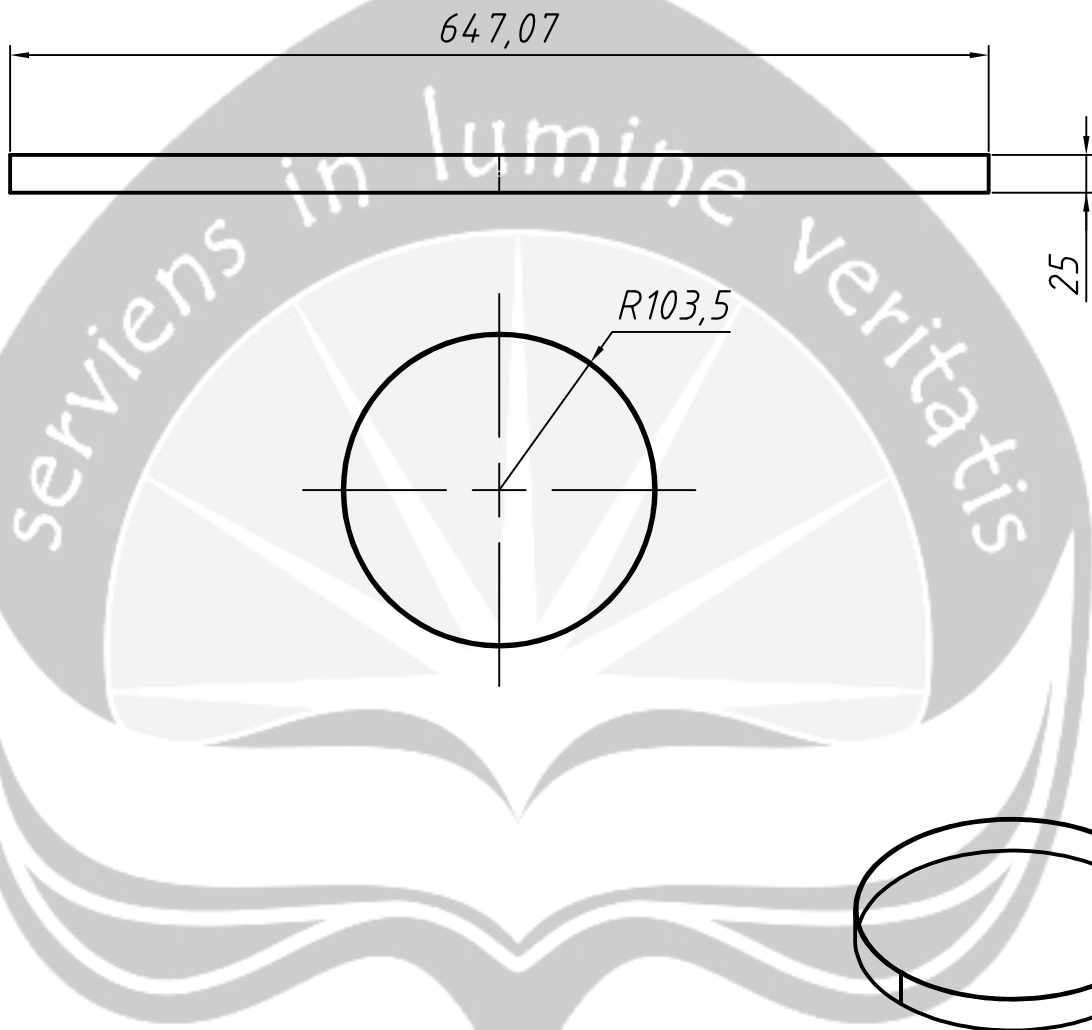


1	Body Cover						6	Alluminium	630x380x1		
Qty	Description						Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.	
SN 258440 - Middle							Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — —	DT :	___ ± ___	-	Cutting Wheel 
	6	30	120	400	1000	2000	Val — — — —	Sc : 1:5			
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2	Title				Projection's
							Mesin Pemotong Cokelat				
RI	RNo.	Date		Name			Detail of :				
—	—	—		—			Tugas Akhir UAJY				Dwg.Nr.
—	—	—		—			Tahun 2017				PC-1003 PC-1003-06
Origin.							Register :	Wt :	MU :	SN :	NS :



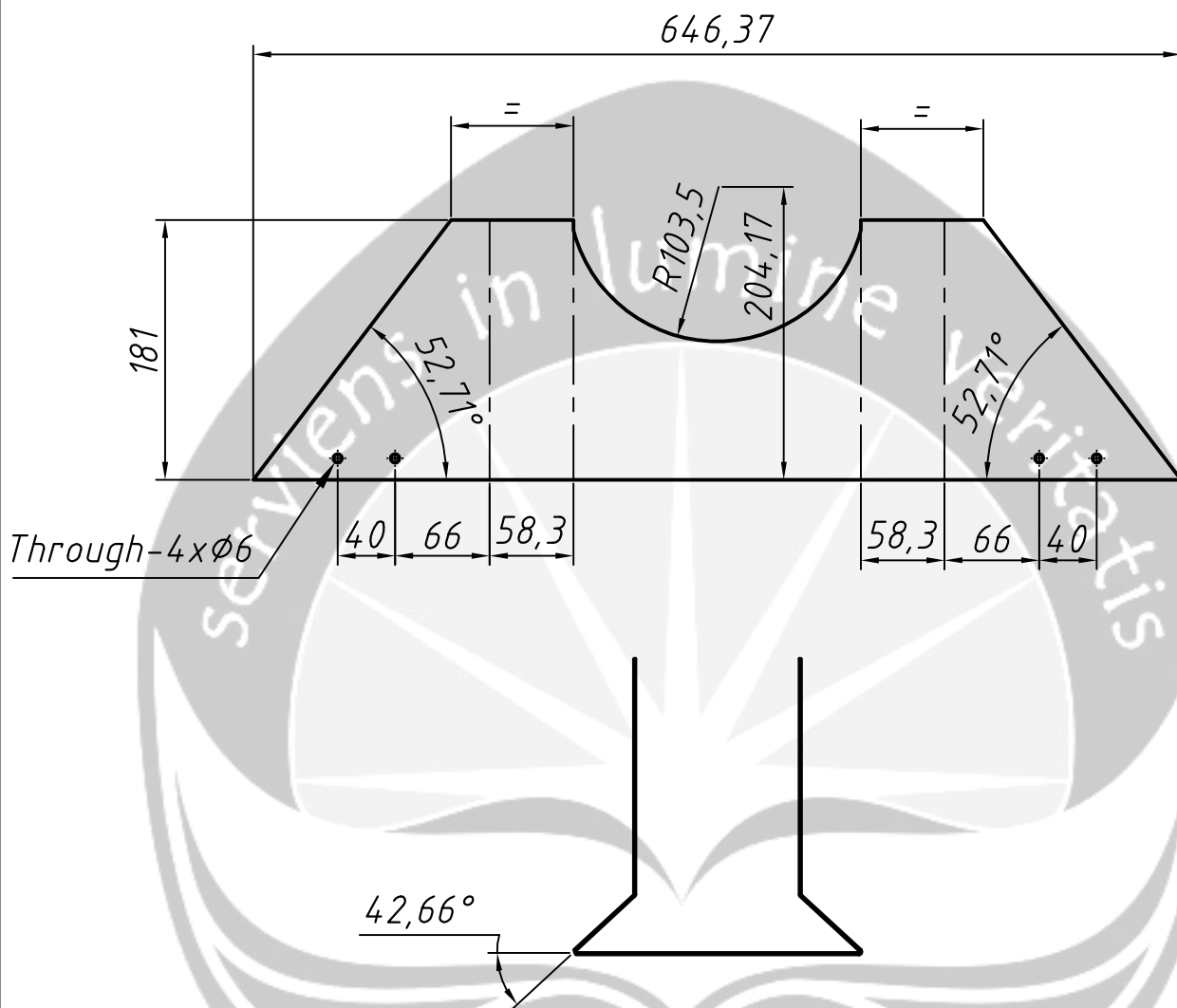
1	Cover Mata Potong						7	P.Stainless	425x210x1		
Qty	Description						Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.	
SN 258440 - Middle							Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —	DT :	___ ± ___	-	
	6	30	120	400	1000	2000	Val — — — — —	Sc : 1:5			
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2	Title				Projection's
							Mesin Pemotong Cokelat				
RI	RNo.	Date		Name			Detail of :				Dwg.Nr.
—	—	—		—			Tugas Akhir UAJY				
—	—	—		—			Tahun 2017				
Origin.							Register :	Wt :	MU :	SN :	NS :
									PC-1002	PC-1002-01	



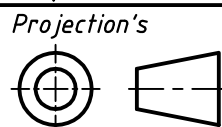


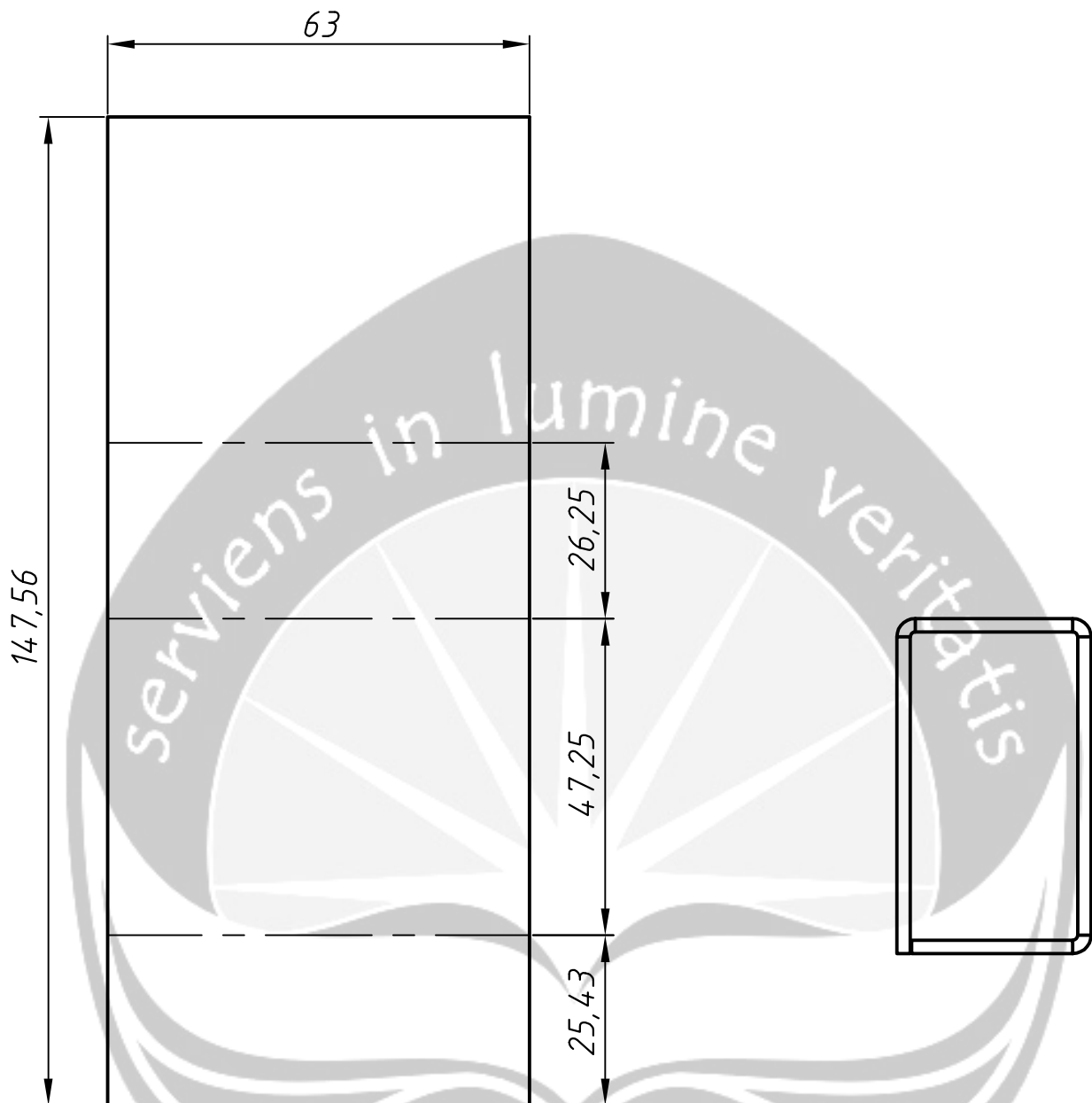
Gambar 3D

1	Cover Mata Potong	8	P.Stainless	650x25x1	
Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle		Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5 >6 >30 >120 >400 >1000 6 30 120 400 1000 2000	Chk Val	DT : Sc : 1:5	±	-
Tol.± 0.1 0.2 0.3 0.5 0.8 1.2		Title			Operation
		Mesin Pemotong Cokelat			Bending
RI	RNo.	Date	Name	Detail of :	
				Tugas Akhir UAJY	
				Tahun 2017	
Origin.		Register :	Wt :	MU :	SN : NS :
				PC-1002	PC-1002-02

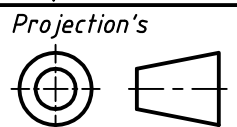


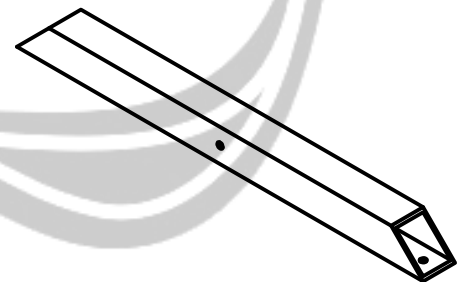
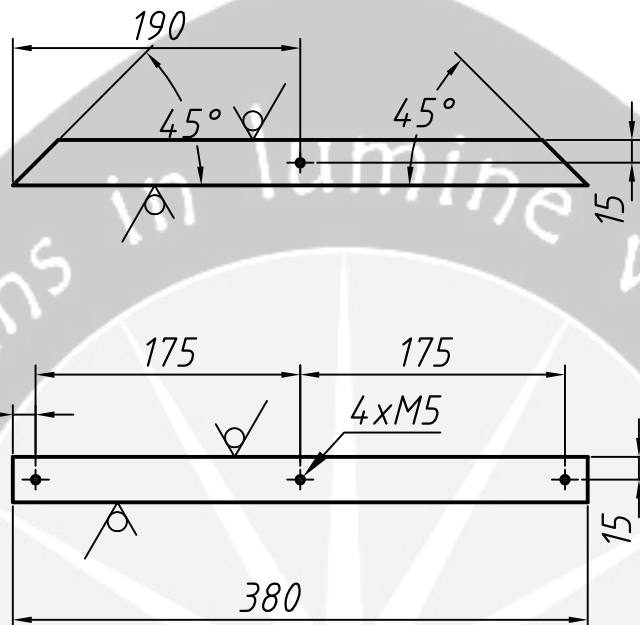
1	Cover Mata Potong	9	P.Stainless	650x190x1	
Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle		Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5 >6 >30 >120 >400 >1000 6 30 120 400 1000 2000	Chk — — — — — Val — — — — —	DT : Sc : 1:5	— ± —	—
Tol.±	0.1 0.2 0.3 0.5 0.8 1.2	Title			Operation
RI	RNo.	Date	Name	Detail of :	
—	—	—	—	Tugas Akhir UAJY	
—	—	—	—	Tahun 2017	
Origin.	Register :		Wt :	MU :	SN : NS :
		Assy.		PC-1002	PC-1002-03

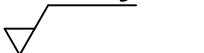
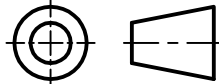


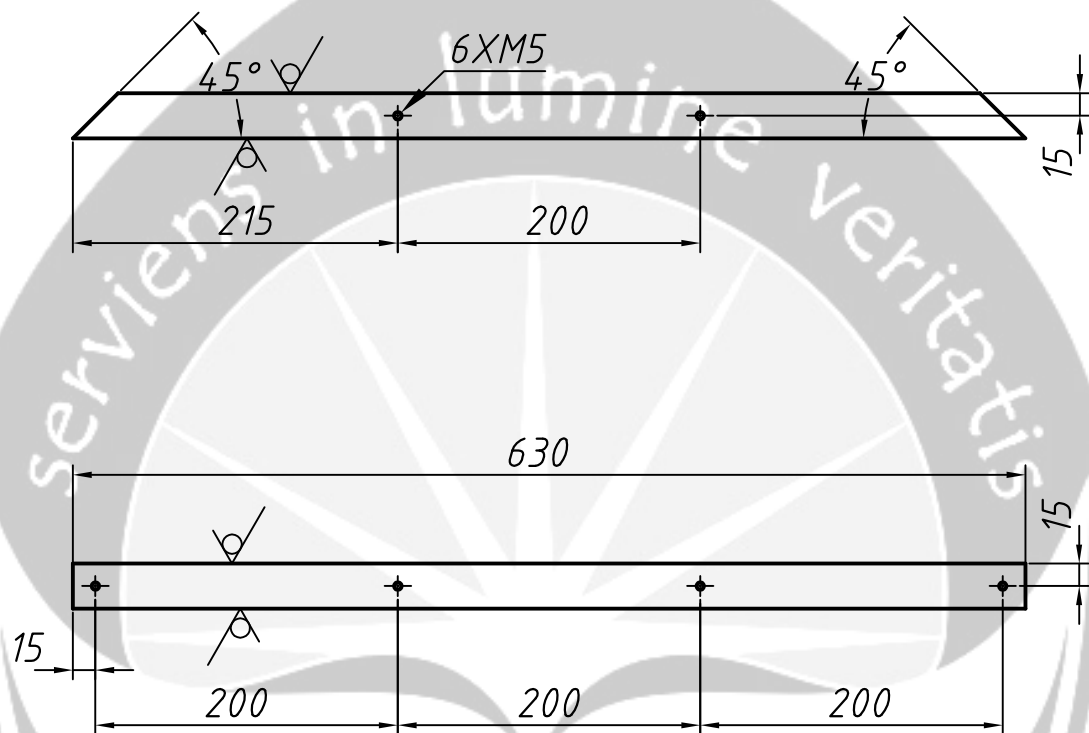


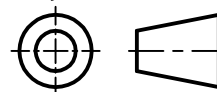
1		Body Cover					10		Stainless		150x65x2										
Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.								
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4		Hard. HRC.		Item		Operation						
Nom.		0.5	>6	>30	>120	>400	>1000	Chk — — — —		DT :				-		Bending					
		6	30	120	400	1000	2000	Val — — — —		Sc : 1:1		___ ± ___									
Tol.±							Title							Projection's							
							Mesin Pemotong Cokelat														
RI		RNo.		Date		Name		Detail of :													
								Tugas Akhir UAJY							Assy.			Dwg.Nr.			
								Tahun 2017							PC-1003 PC-1003-07						
Origin.							Register :					Wt :		MU :		SN :		NS :			

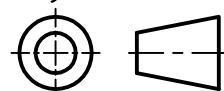




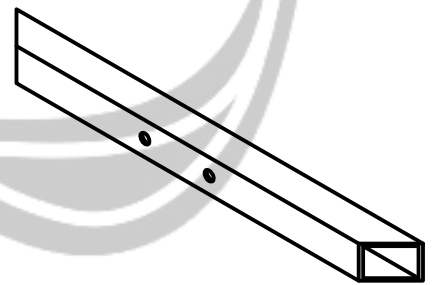
2		Rangka					11	Hollow	30x30x2-380								
Qty		Description					Item	Material	Dim/Dwg.Nr.		Rem/Seat Nr.						
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation					
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :		-						
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5	__ ± __							
	Title												Projection's				
Tol.±		0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat									
RI		RNo.		Date		Name		Detail of :									
—		—		—		—		Tugas Akhir UAJY									
—		—		—		—		Tahun 2017					Assy.	Dwg.Nr.			
—		—		—		—		Origin.					Register :	Wt :	MU :	SN :	NS :

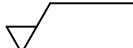
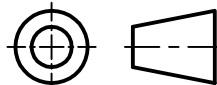


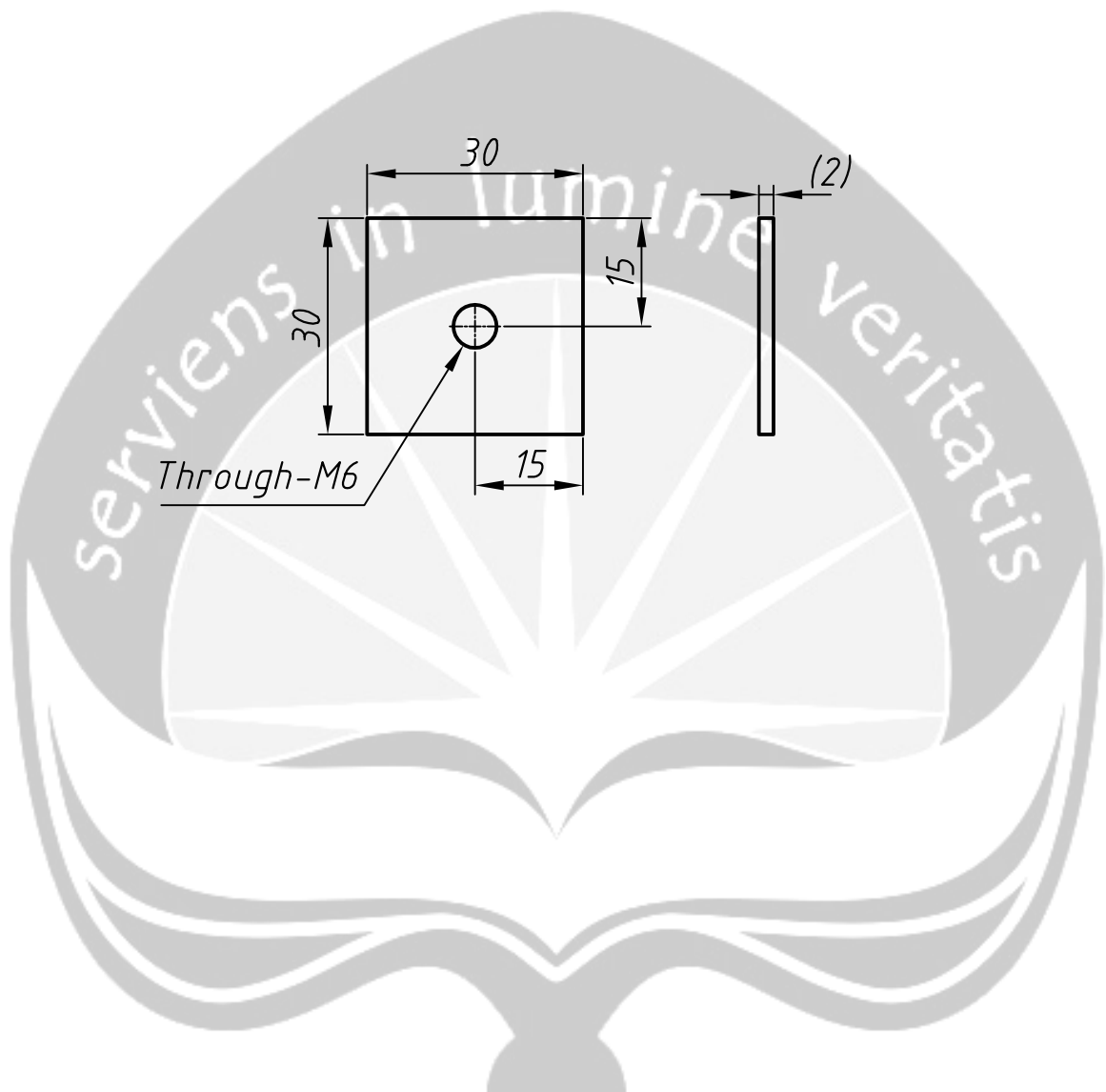
2	Rangka					12	Hollow	30x30x2-630											
Qty	Description					Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.										
SN 258440 - Middle						Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item	Operation									
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —	DT :		Cutting Wheel									
	6	30	120	400	1000	2000	Val — — — — —	Sc : 1:5	__ ± __ -										
Tol.±						0.1	0.2	0.3	0.5	0.8	1.2	Title		Mesin Pemotong Cokelat		Projection's			
RI						RNo.	Date	Name		Detail of :									
—						—	—	—		Tugas Akhir UAJY						Assy.		Dwg.Nr.	
—						—	—	—		Tahun 2017						PC-1001		PC-1001-09	
Origin.						Register :						Wt :		MU :		SN :		NS :	



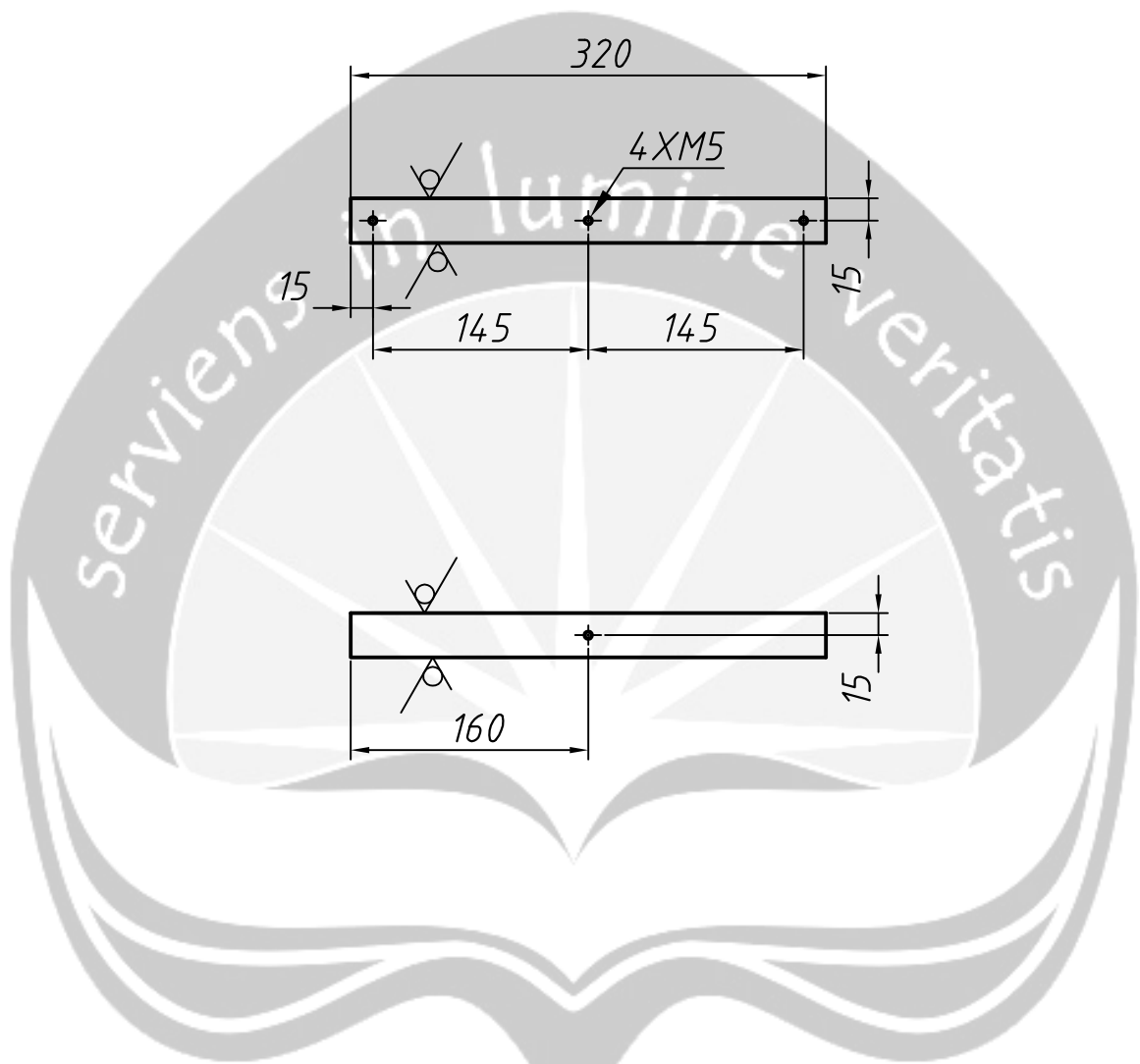
PC-1001 PC-1001-09

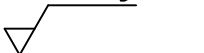
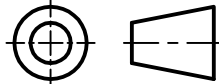


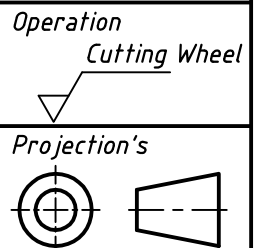
2		Rangka					13		Hollow		30x30x2-380								
Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.						
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4		Hard. HRC.		Item		Operation				
Nom.		0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :		— ± —		-		Cutting Wheel			
		6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5									
Title							Mesin Pemotong Cokelat									Projection's			
RI RNo. Date Name							Detail of :												
							Tugas Akhir UAJY									Assy.		Dwg.Nr.	
							Tahun 2017									PC-1001		PC-1001-10	
Origin.							Register :				Wt :		MU :		SN :		NS :		

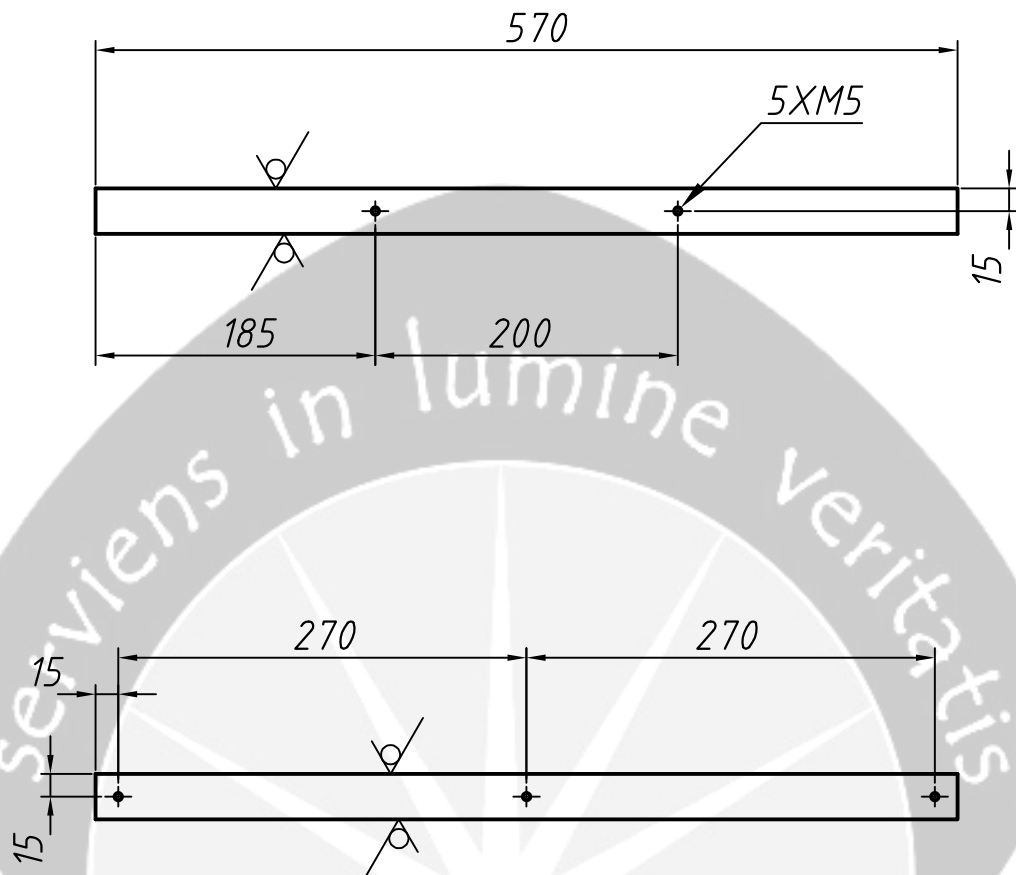


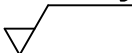
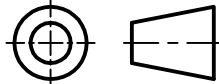
4	Rangka		14	Plat strip	30x30x2	
Qty	Description		Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle			Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5	>6	>30	>120	>400	>1000
	6	30	120	400	1000	2000
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2
			Chk	DT :		Operation
			Val	Sc : 1:1	±	Cutting Wheel
			Title			Projection's
			Mesin Pemotong Cokelat			
RI	RNo.	Date	Name	Detail of :		
				Tugas Akhir UAJY		
				Tahun 2017		
Origin.			Register :	Wt :	MU :	
					PC-1001	Dwg.Nr.
						PC-1001-11
						SN : NS :

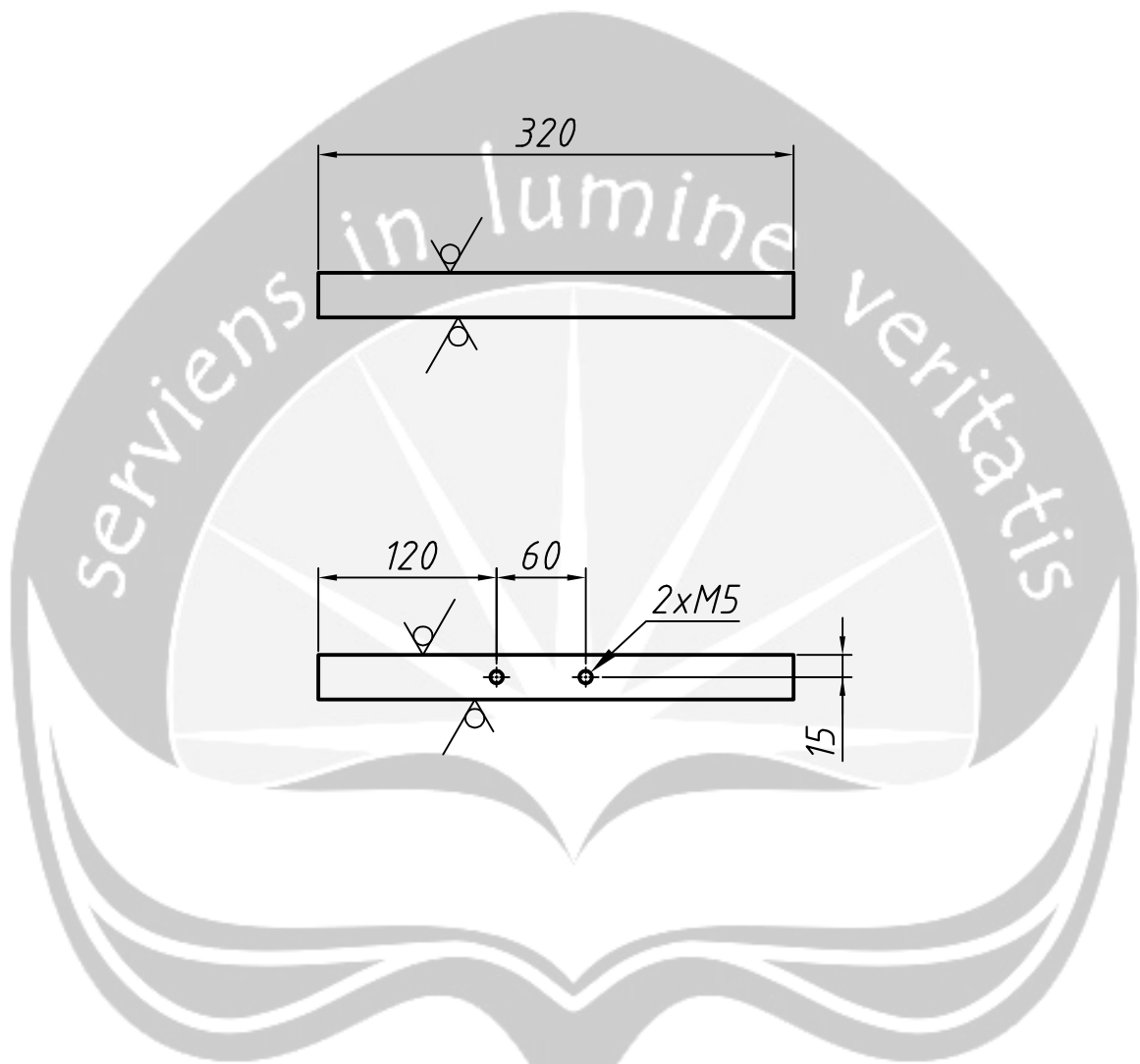


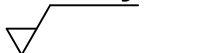
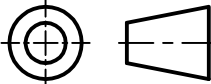
2		Rangka					15	Hollow	30x30x2-320				
Qty		Description					Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.			
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :	___ ± ___	-		
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5				
	Title												
Tol.±		0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat					Projection's
RI		RNo.	Date		Name		Detail of :						
—		—	—		—		Tugas Akhir UAJY					Assy.	Dwg.Nr.
—		—	—		—		Tahun 2017						
Origin.							Register :		Wt :	MU :	SN :	NS :	

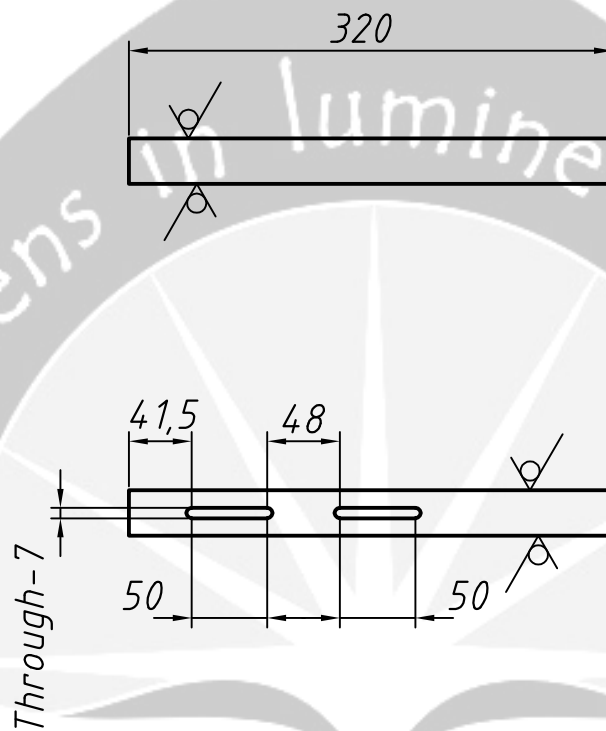


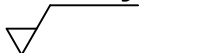
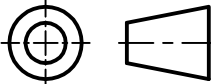


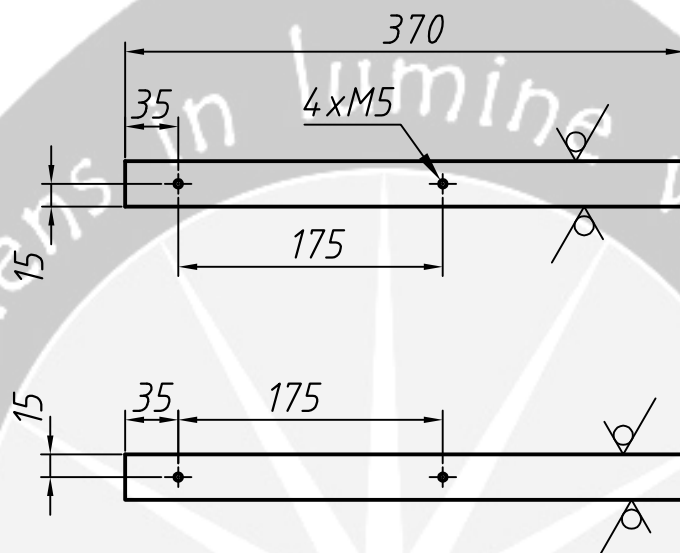
2		Rangka					16	Hollow	30x30x2-570			
Qty		Description					Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.		
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :	___ ± ___	-	Cutting Wheel 
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:5			
Tol.±							Title					Projection's
							Mesin Pemotong Cokelat					
RI RNo. Date Name							Detail of :					
							Tugas Akhir UAJY					Dwg.Nr.
							Tahun 2017					
Origin.							Register :		Wt :	MU :	SN :	NS :
											PC-1001	PC-1001-13



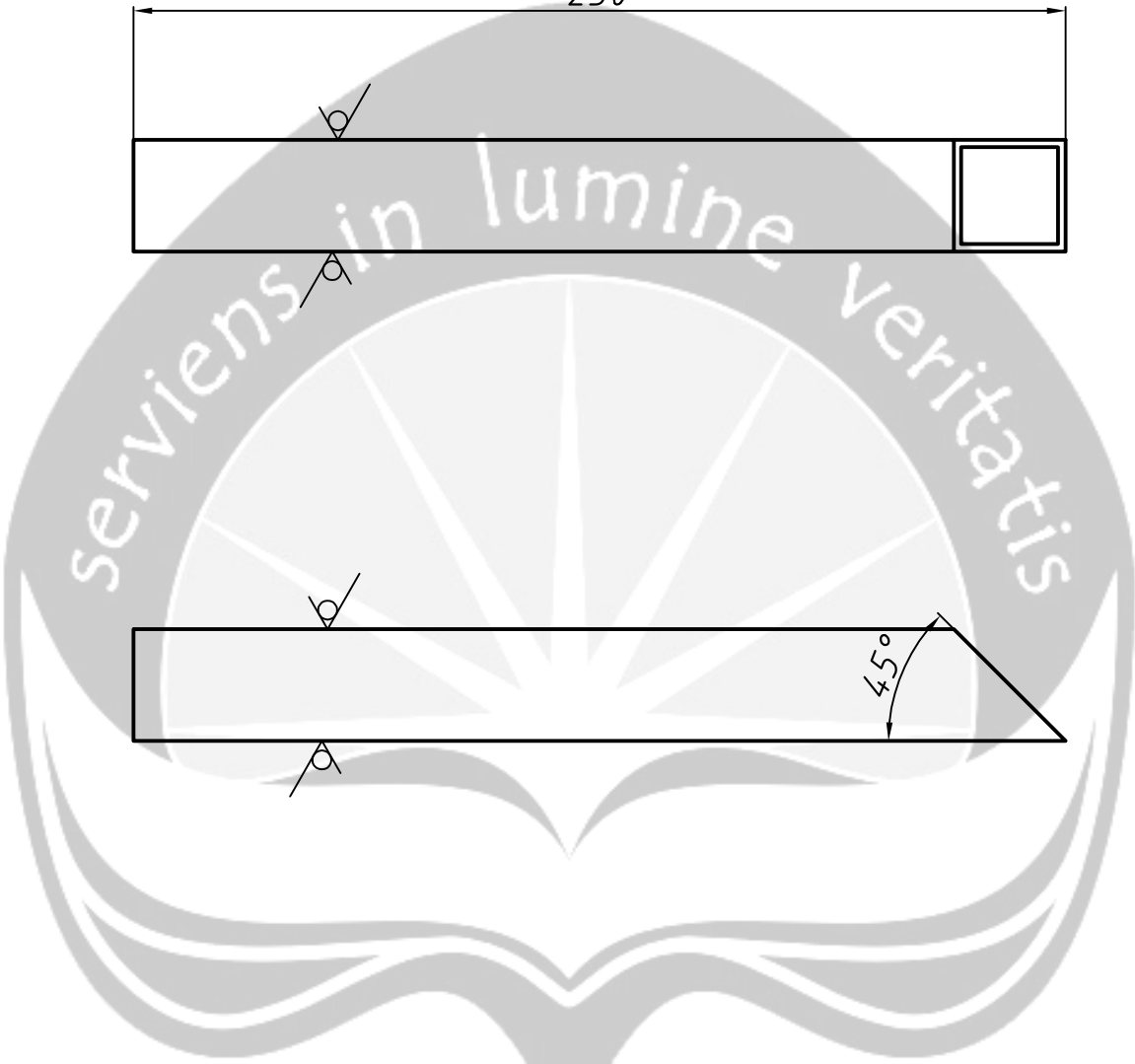
2		Rangka					17	Hollow	30x30x2-320				
Qty		Description					Item	Material	Dim/Dwg.Nr.		Rem/Seat Nr.		
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — —		DT :		-		
	6	30	120	400	1000	2000	Val — — — —		Sc : 1:5	___ ± ___			
	Title												Projection's
Tol.±		0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat					
RI	RNo.	Date		Name		Detail of :							
—	—	—		—		Tugas Akhir UAJY							
									Assy.		Dwg.Nr.		
							Tahun 2017		PC-1001		PC-1001-14		
Origin.							Register :		Wt :		MU :		SN : NS :

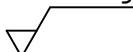
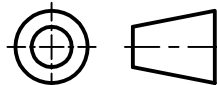


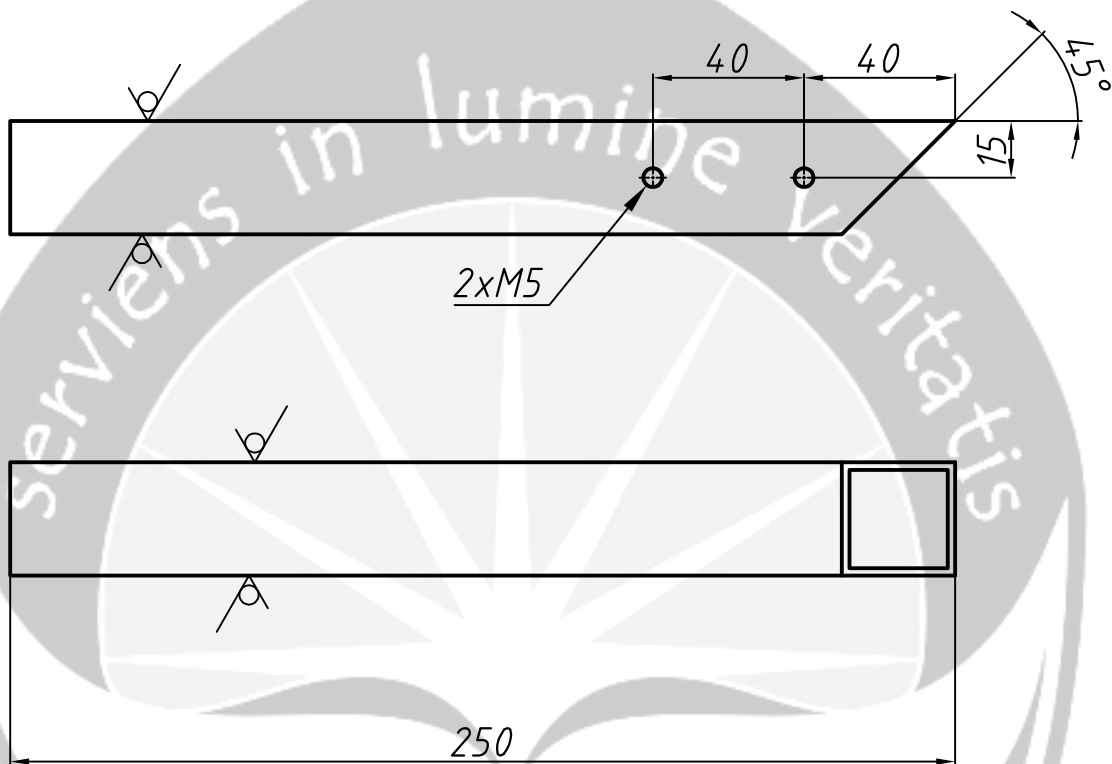
2		Rangka					18	Hollow	30x30x2-320				
Qty		Description					Item	Material	Dim/Dwg.Nr.		Rem/Seat Nr.		
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — —		DT :		-		
	6	30	120	400	1000	2000	Val — — — —		Sc : 1:5	___ ± ___			
	Title												Projection's
Tol.±		0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat					
RI	RNo.	Date		Name		Detail of :							
—	—	—		—		Tugas Akhir UAJY							
							Tahun 2017			Assy.		Dwg.Nr.	
										PC-1001		PC-1001-15	
Origin.							Register :			Wt :	MU :	SN :	NS :



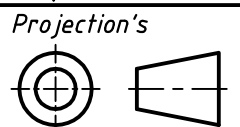
4	Rangka		19	Hollow	30x30x2-370	
Qty	Description		Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle			Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5	>6	>30	>120	>400	>1000
	6	30	120	400	1000	2000
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2
Title			Mesin Pemotong Cokelat			Projection's
RI	RNo.	Date	Name	Detail of :		
			Tugas Akhir UAJY Tahun 2017		Assy.	
			PC-1001		Dwg.Nr.	PC-1001-16
Origin.			Register :	Wt :	MU :	SN : NS :



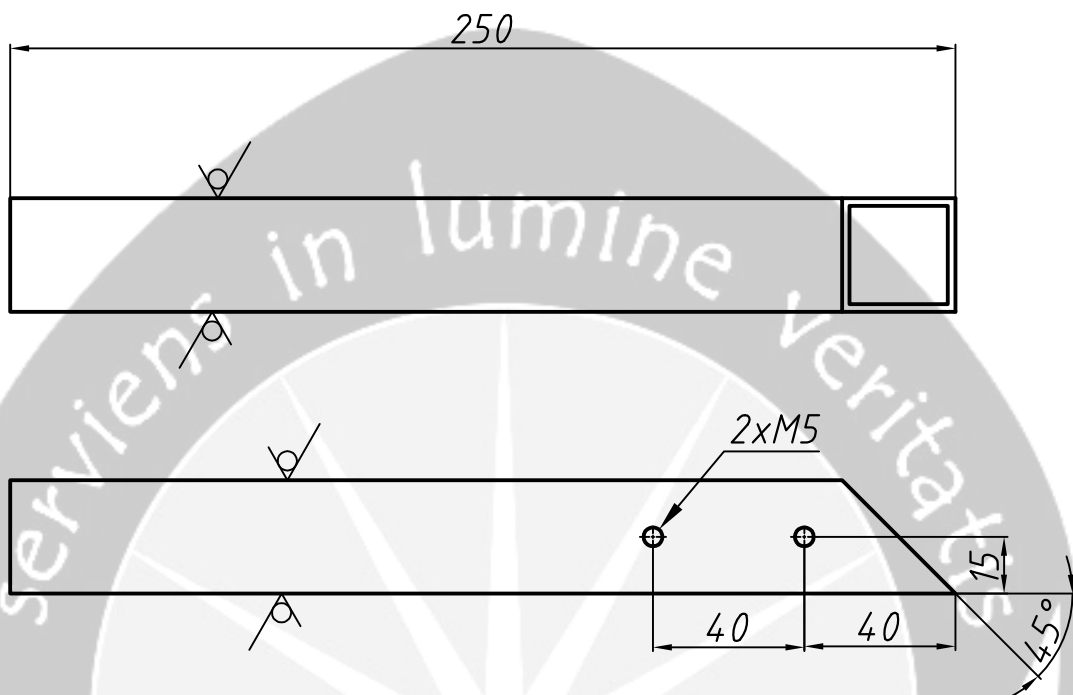
2		Rangka					20	Hollow	30x30x2-250				
Qty		Description					Item	Material	Dim/Dwg.Nr.		Rem/Seat Nr.		
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :			Cutting Wheel 	
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:2	___ ± ___	-		
Title							Mesin Pemotong Cokelat					Projection's	
RI RNo. Date Name							Detail of :						
— — — — —							Tugas Akhir UAJY					Dwg.Nr.	
— — — — —							Tahun 2017					PC-1001	PC-1001-17
Origin.							Register :		Wt :	MU :	SN :	NS :	

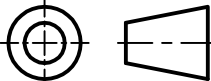


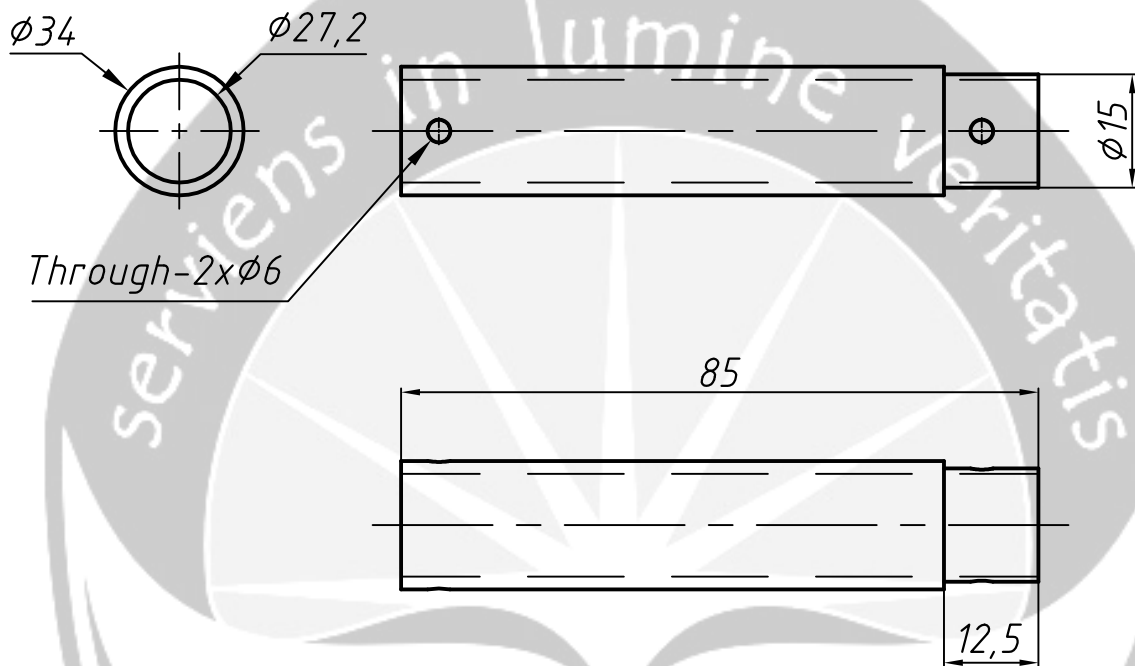
1	Rangka	21	Hollow	30x30x2-250	
Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle		Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5 >6 >30 >120 >400 >1000 6 30 120 400 1000 2000	Chk — — — — — Val — — — — —	DT : Sc : 1:2	— ± —	-
Tol.± 0.1 0.2 0.3 0.5 0.8 1.2		Title			Operation
		Mesin Pemotong Cokelat			Cutting Wheel
RI	RNo.	Date	Name	Detail of :	
—	—	—	—	Tugas Akhir UAJY	
—	—	—	—	Tahun 2017	
—	—	—	—	Assy.	
Origin.		Register :	Wt :	MU :	SN : NS :

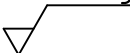
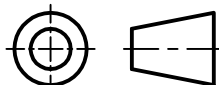
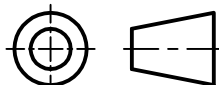


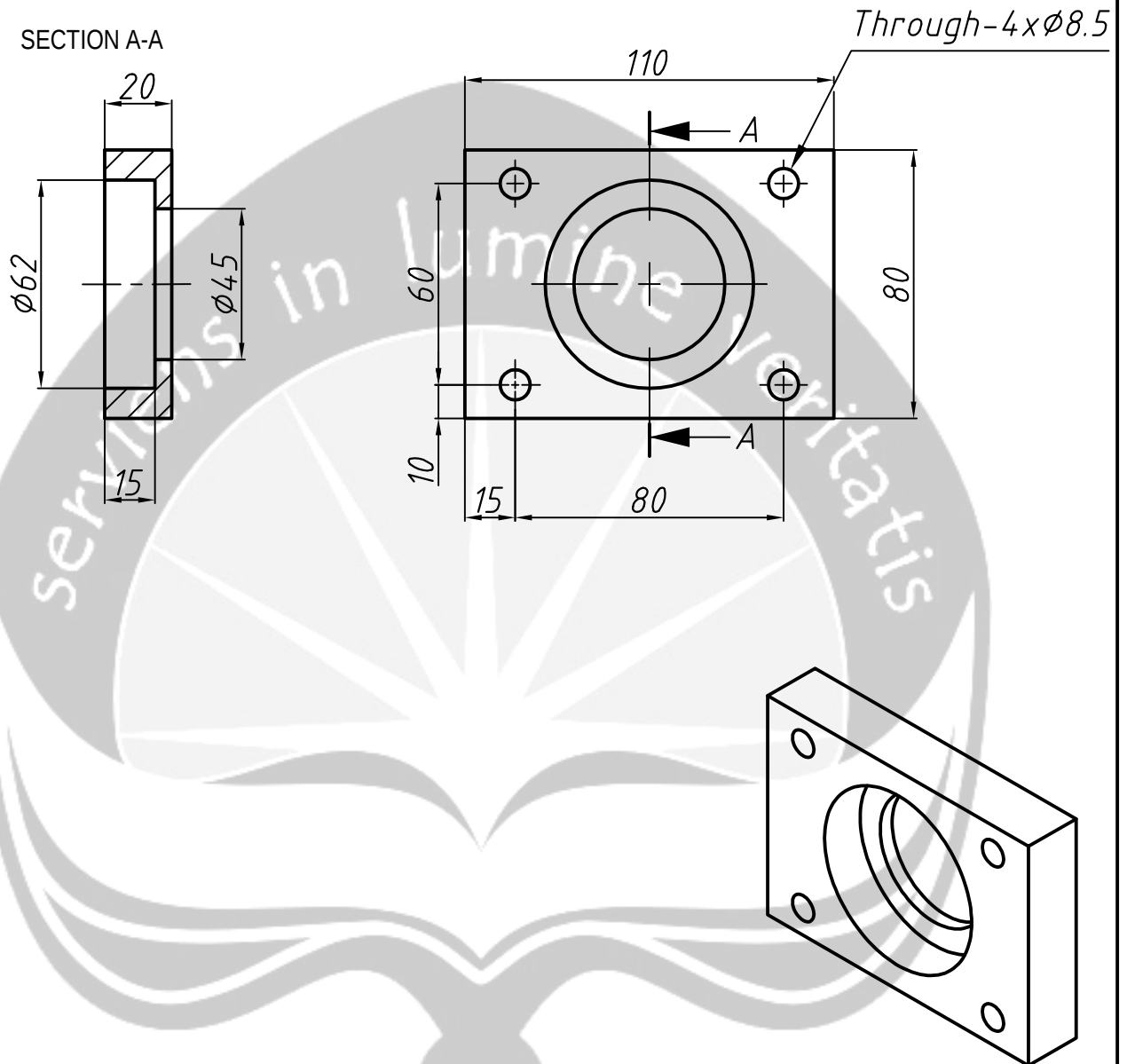
Dwg.Nr. PC-1001-18

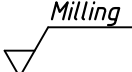
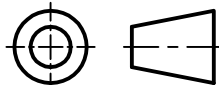


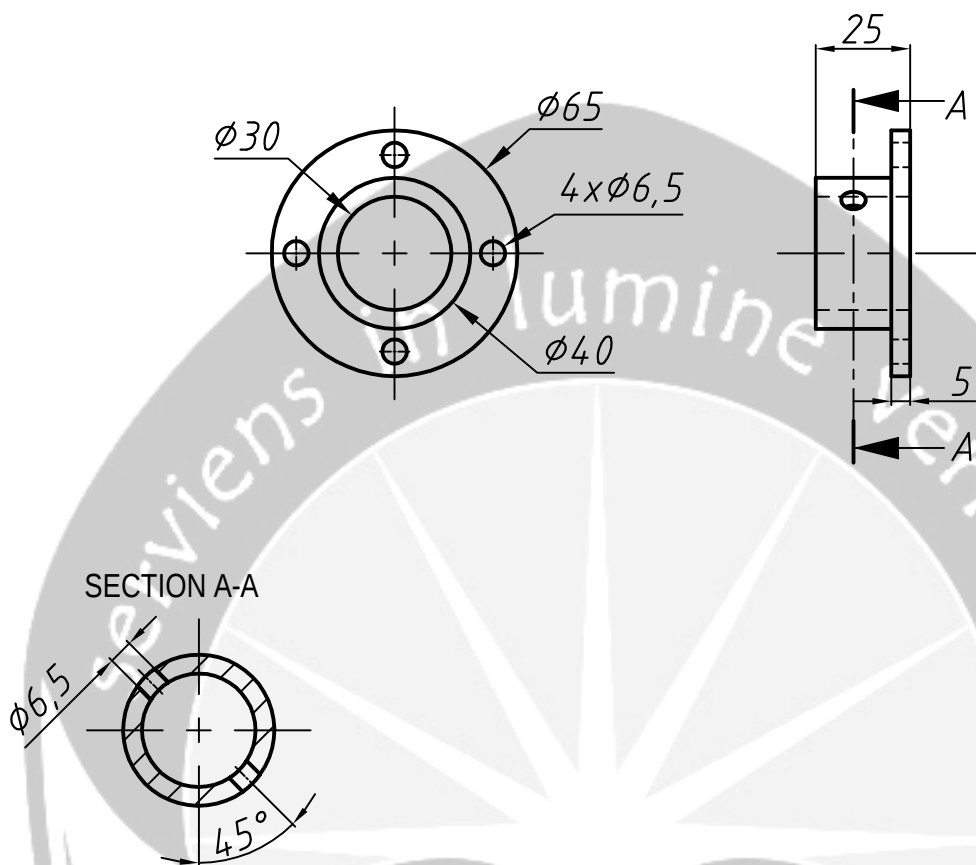
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Qty		Description						Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.	
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk	— — — — —	DT :	___ ± ___	-	Cutting Wheel 
	6	30	120	400	1000	2000	Val	— — — — —	Sc : 1:2			
	Title							Mesin Pemotong Cokelat				
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2	Detail of :					Projection's 
RI	RNo.	Date		Name		Tugas Akhir UAJY					Assy.	Dwg.Nr.
—	—	—		—		Tahun 2017					PC-1001	PC-1001-19
Origin.							Register :		Wt :	MU :	SN : NS :	

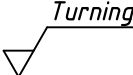
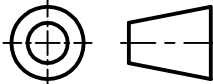


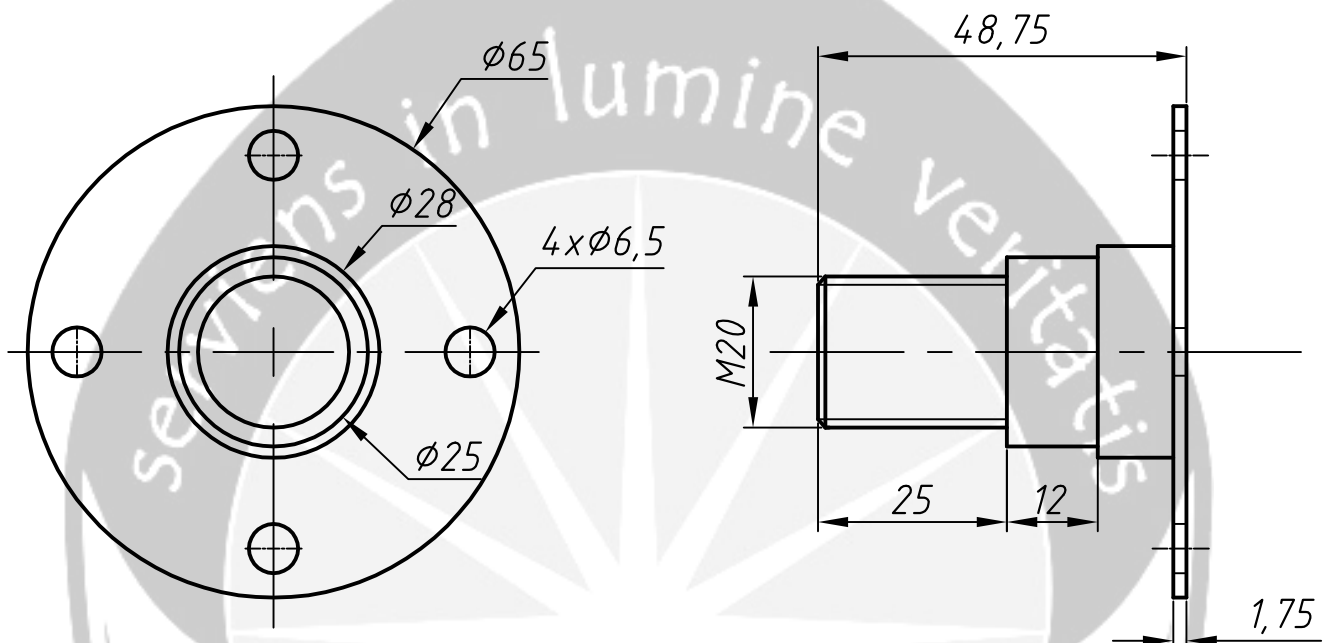
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Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.				
SN 258440 – Middle							Dwn 11 okt 17 Davit		F : A4		Hard. HRc.		Item		Operation		
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :		±		-				
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:2								
	Title							Mesin Pemotong Cokelat									Projection's
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2											
RI	RNo.	Date		Name		Detail of :											
—	—	—		—		Tugas Akhir UAJY											
—	—	—		—		Assy.											
							Tahun 2017							PC-1004		PC-1004-01	
Origin.							Register :			Wt :		MU :		SN :		NS :	

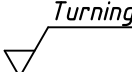
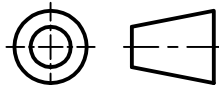


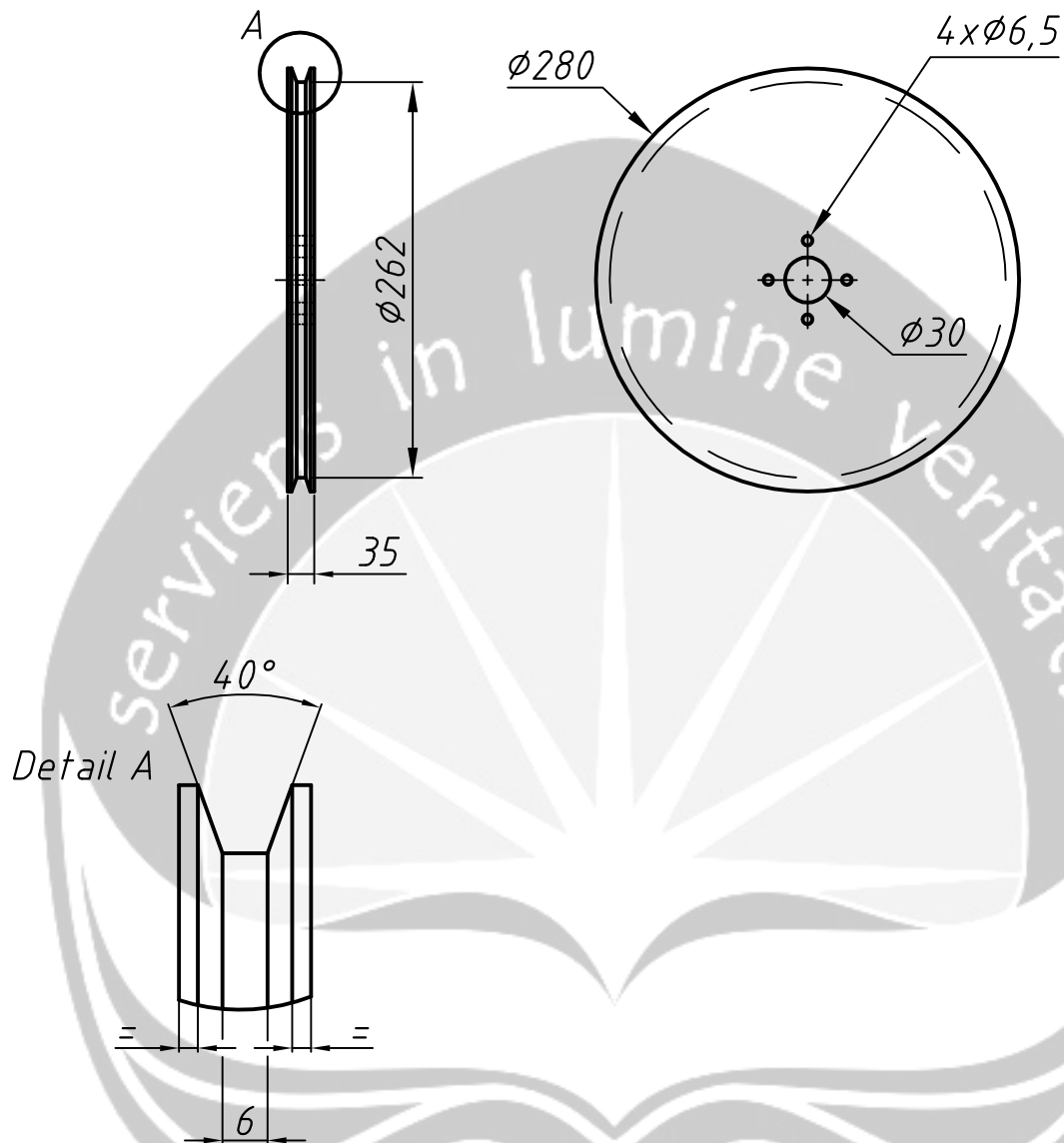
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SN 258440 - Middle							Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —	DT :	___ ± ___	-		
	6	30	120	400	1000	2000	Val — — — — —	Sc : 1:2				
Tol.±							Title				Projection's	
							Mesin Pemotong Cokelat					
RI	RNo.	Date		Name		Detail of :					Dwg.Nr.	
—	—	—		—		Tugas Akhir UAJY						
—	—	—		—		Tahun 2017						
Origin.							Register :		Wt :	MU :	SN :	NS :
											PC-1004	PC-1004-02



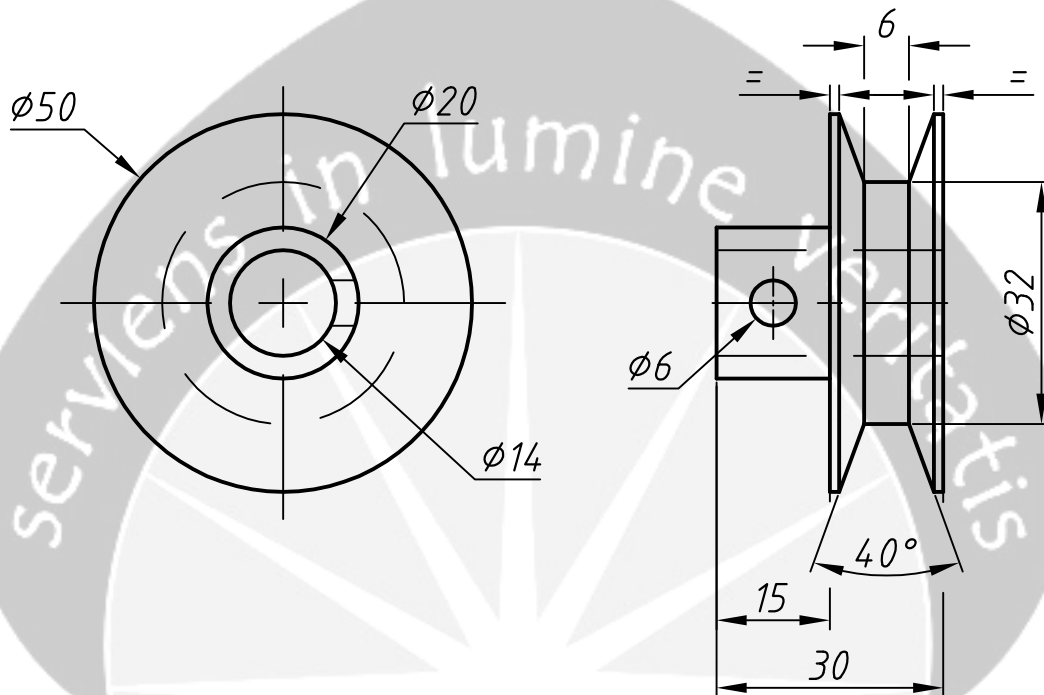
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Qty		Description						Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.		
SN 258440 – Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation	
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — — —		DT :				
	6	30	120	400	1000	2000	Val — — — — —		Sc : 1:2	___ ± ___	-		
	Title												
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat					Projection's	
RI	RNo.	Date		Name			Detail of :						
—	—	—		—			Tugas Akhir UAJY					Dwg.Nr.	
—	—	—		—			Tahun 2017						
Origin.							Register :			Wt :	MU :	SN :	NS :
												PC-1004	PC-1004-03

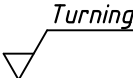
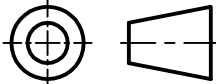


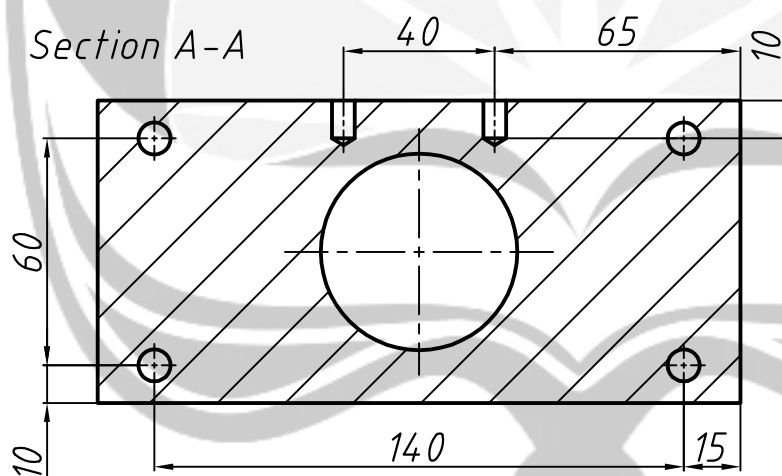
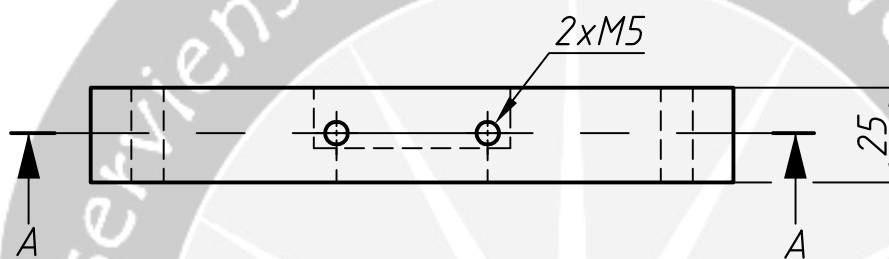
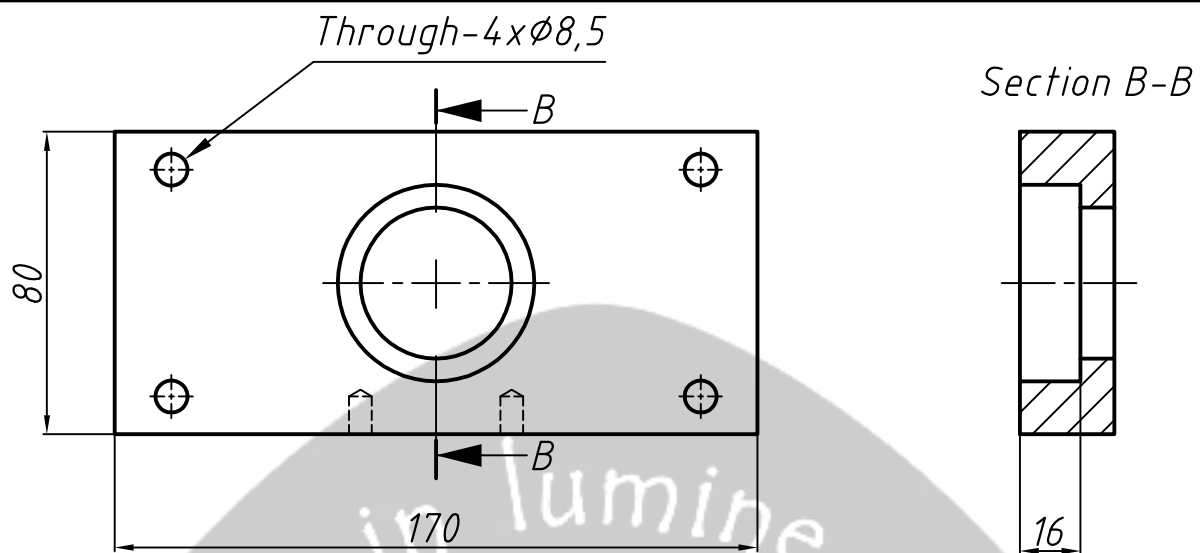
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Qty		Description					Item		Material		Dim/Dwg.Nr.		Rem/Seat Nr.			
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4		Hard. HRC.		Item			
Nom.		0.5	>6	>30	>120	>400	>1000	Chk — — — —		DT :		— ± —		- 		
		6	30	120	400	1000	2000	Val — — — —		Sc : 1:1						
Tol.±							0.1	0.2	0.3	0.5	0.8	1.2	Title			
							Mesin Pemotong Cokelat							Projection's		
																
RI		RNo.		Date		Name		Detail of :						Dwg.Nr.		
								Tugas Akhir UAJY						Assy.		
								Tahun 2017						PC-1004 PC-1004-04		
Origin.							Register :				Wt :		MU :		SN : NS :	



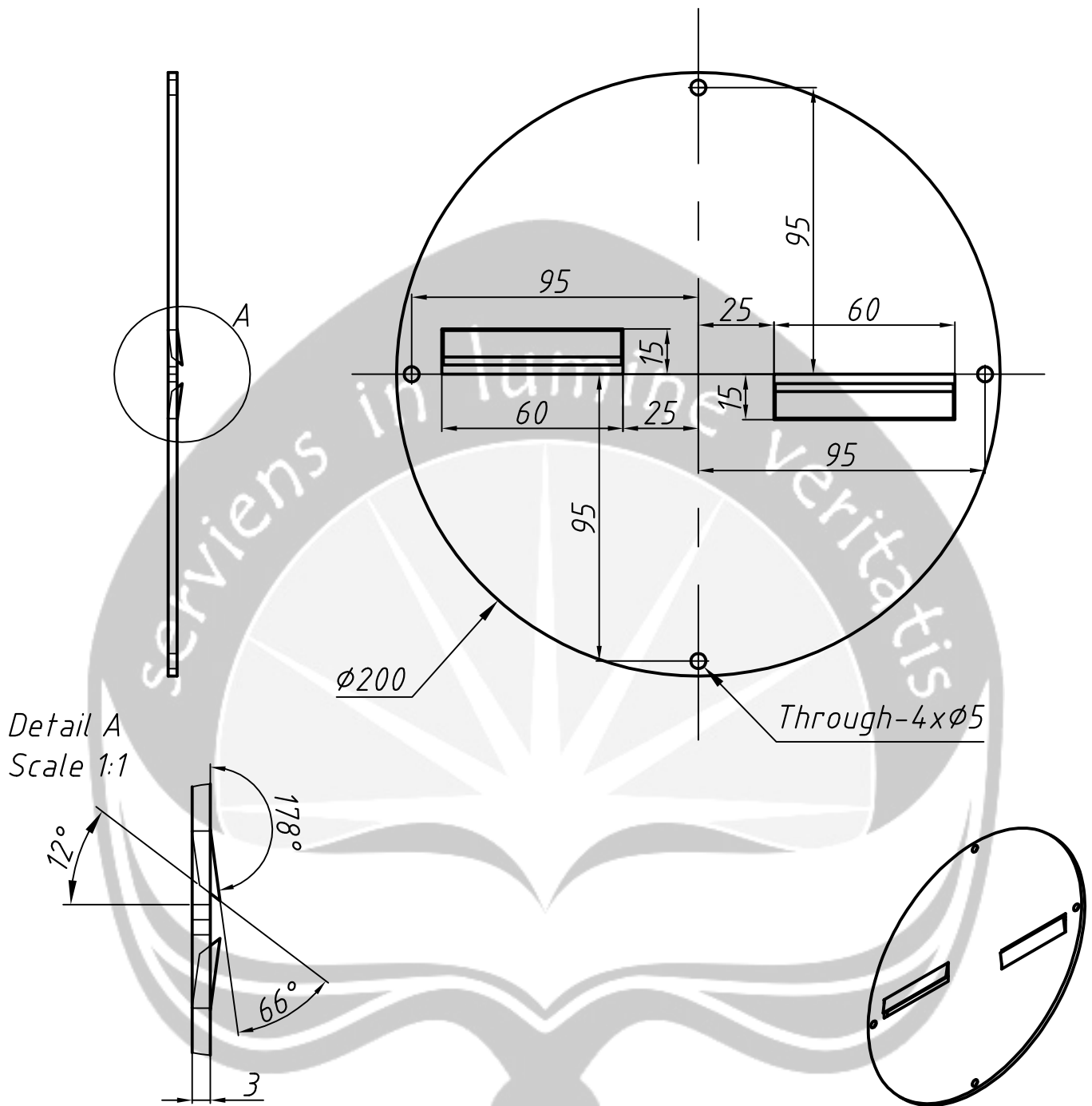
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Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
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Nom.	0.5 >6 >30 >120 >400 >1000	Chk — — — — —	DT :		Operation
	6 30 120 400 1000 2000	Val — — — — —	Sc : 1:10	±	Turning
Tol.±	0.1 0.2 0.3 0.5 0.8 1.2	Title			Projection's
RI	RNo.	Date	Name	Mesin Pemotong Cokelat	
—	—	—	—	Detail of :	
—	—	—	—	Tugas Akhir UAJY	
—	—	—	—	Tahun 2017	
Origin.	Register :		Wt :	MU :	SN : NS :
					PC-1004 PC-1004-05



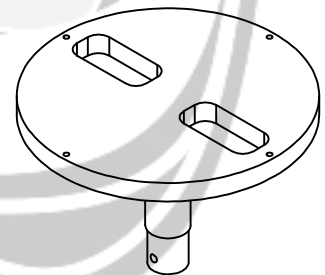
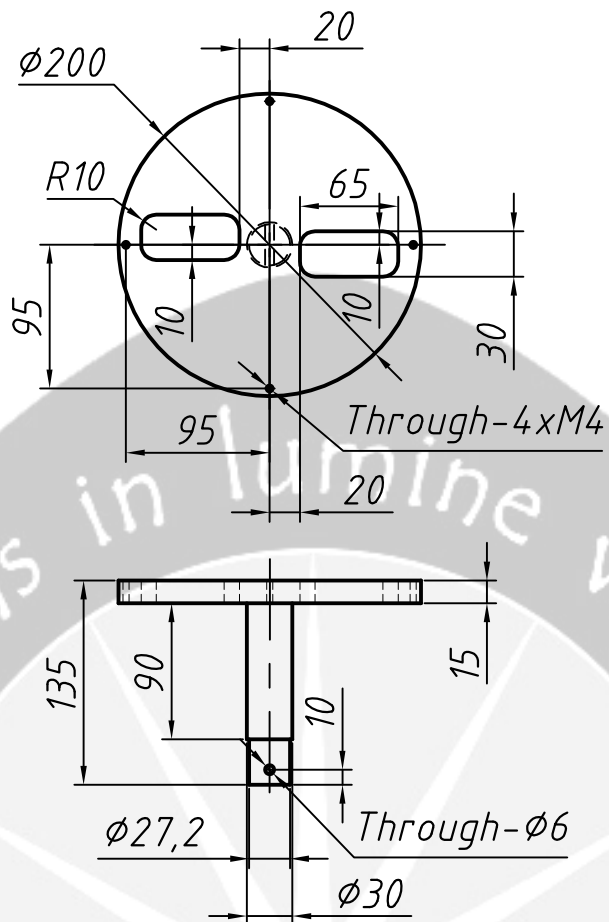
1	Transmisi						28	P.Stainless	Ø55x35			
Qty		Description						Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.	
SN 258440 – Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk	— — —	DT :			
	6	30	120	400	1000	2000	Val	— — —	Sc : 1:1	__ ± __	-	
	Title											
Tol.±	0.1	0.2	0.3	0.5	0.8	1.2	Mesin Pemotong Cokelat					Projection's
RI	RNo.	Date		Name		Detail of :						
—	—	—		—		Tugas Akhir UAJY					Dwg.Nr.	
—	—	—		—		Tahun 2017						
Origin.							Register :			Wt :	MU :	SN : NS :

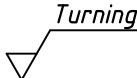
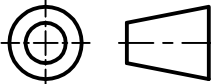


1	Transmisi	29	S45C	180x90x30	
Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle		Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5 >6 >30 >120 >400 >1000	Chk — — — — —	DT :	Operation Milling	
	6 30 120 400 1000 2000	Val — — — — —	Sc : 1:2	±	-
Tol.±	0.1 0.2 0.3 0.5 0.8 1.2	Title Mesin Pemotong Cokelat			Projection's
RI	RNo.	Date	Name	Detail of :	
—	—	—	—	Tugas Akhir UAJY	
—	—	—	—	Tahun 2017	
—	—	—	—	Assy. PC-1004 PC-1004-07	
Origin.	Register :		Wt :	MU :	SN : NS :



1	Transmisi	30	P.Stainless	Ø200x3	
Qty	Description	Item	Material	Dim/Dwg.Nr.	Rem/Seat Nr.
SN 258440 - Middle		Dwn 11 okt 17 Davit	F : A4	Hard. HRC.	Item
Nom.	0.5 >6 >30 >120 >400 >1000	Chk — — — — —	DT :		Operation
	6 30 120 400 1000 2000	Val — — — — —	Sc : 1:2	±	Cutting Wheel
Tol.±	0.1 0.2 0.3 0.5 0.8 1.2	Title			Projection's
RI	RNo.	Date	Name	Detail of :	
—	—	—	—	Tugas Akhir UAJY	
—	—	—	—	Tahun 2017	
—	—	—	—	Assy.	
Origin.	Register :		Wt :	MU :	Dwg.Nr.
					PC-1004 PC-1004-08
					SN : NS :



1	Transmisi						31	Alluminium	Ø210x150			
Qty		Description					Item	Material	Dim/Dwg.Nr.		Rem/Seat Nr.	
SN 258440 - Middle							Dwn 11 okt 17 Davit		F : A4	Hard. HRC.	Item	Operation
Nom.	0.5	>6	>30	>120	>400	>1000	Chk — — — —		DT :		-	
	6	30	120	400	1000	2000	Val — — — —		Sc : 1:5	___ ± ___		
Tol.±		0.1	0.2	0.3	0.5	0.8	1.2	Title				Projection's
							Mesin Pemotong Cokelat					
RI		RNo.		Date		Name		Detail of :				
—		—		—		—		Tugas Akhir UAJY				Dwg.Nr.
—		—		—		—		Tahun 2017				
Origin.							Register :			Wt :	MU :	SN : NS :

Simulation of Rangka mesin

Date: Thursday, October 5, 2017

Designer: Davit Elfrado Purba

Study name: Static 1

Analysis type: Static

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Description

No Data



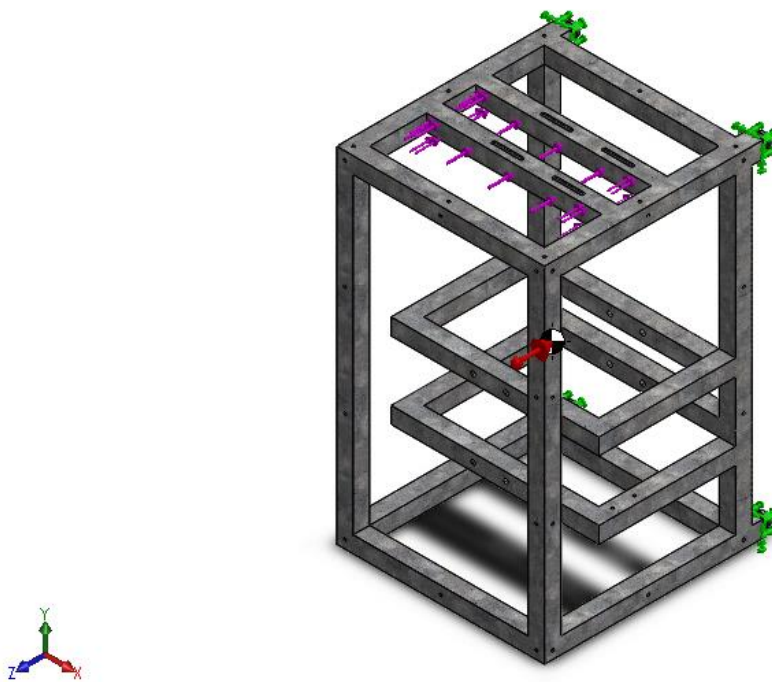
SOLIDWORKS

Analyzed with SOLIDWORKS Simulation

Simulation of Rangka mesin

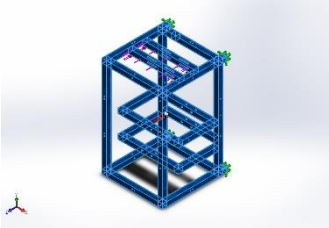
Assumptions

Model Information



Model name: Rangka mesin
Current Configuration: Default

Solid Bodies

Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Ø5.0mm Dowel Hole6 	Solid Body	Mass:14.5775 kg Volume:0.00185229 m ³ Density:7870 kg/m ³ Weight:142.86 N	D:\Tugas Akhir Cokelat\Design Solidworks newest\Rangka mesin.SLDPRT Oct 05 02:24:20 2017



Study Properties

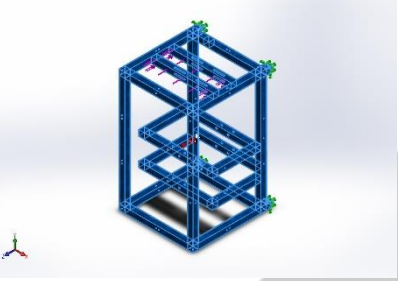
Study name	Static 1
Analysis type	Static
Mesh type	Solid Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	Off
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Friction	Off
Use Adaptive Method:	Off
Result folder	SOLIDWORKS document (D:\Tugas Akhir Cokelat\Design Solidworks newest)

Units

Unit system:	SI (MKS)
Length/Displacement	mm
Temperature	Kelvin
Angular velocity	Rad/sec
Pressure/Stress	N/m ²

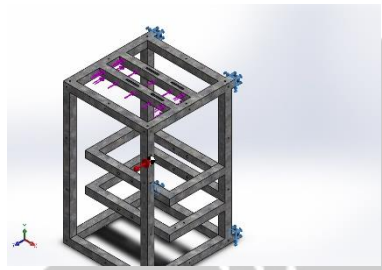


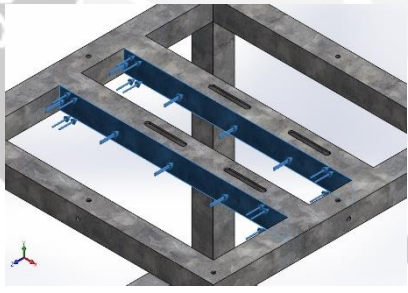
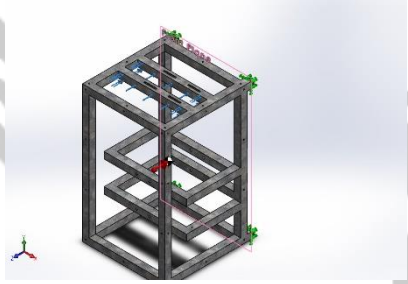
Material Properties

Model Reference	Properties	Components
	Name: Galvanized Steel Model type: Linear Elastic Isotropic Default failure criterion: Max von Mises Stress Yield strength: 2.03943e+008 N/m² Tensile strength: 3.56901e+008 N/m² Elastic modulus: 2e+011 N/m² Poisson's ratio: 0.29 Mass density: 7870 kg/m³	SolidBody 1(Ø5.0mm Dowel Hole6)(Rangka mesin)
Curve Data:N/A		



Loads and Fixtures

Fixture name	Fixture Image	Fixture Details		
Fixed-1		Entities: 4 face(s) Type: Fixed Geometry		
Resultant Forces				
Components	X	Y	Z	Resultant
Reaction force(N)	0.0037977	0.00901729	343.002	343.002
Reaction Moment(N.m)	0	0	0	0

Load name	Load Image	Load Details
Force-1		Entities: 2 face(s) Type: Apply normal force Value: 200 N
Gravity-1		Reference: Front Plane Values: 0 0 -9.81 Units: SI

Connector Definitions

No Data



Contact Information

No Data



Mesh information

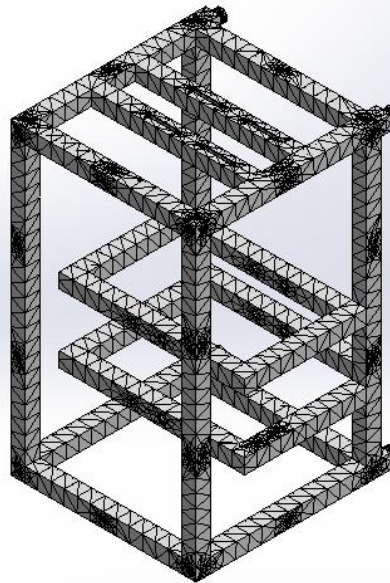
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	27.1302 mm
Tolerance	1.35651 mm
Mesh Quality	High

Mesh information - Details

Total Nodes	52468
Total Elements	27214
Maximum Aspect Ratio	177.07
% of elements with Aspect Ratio < 3	15.4
% of elements with Aspect Ratio > 10	46.3
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:21
Computer name:	MICROSOFT



Model name:Rangka mesin
Study name:Static 1(-Default-)
Mesh type: Solid Mesh



Sensor Details

No Data

Resultant Forces

Reaction forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	0.0037977	0.00901729	343.002	343.002

Reaction Moments

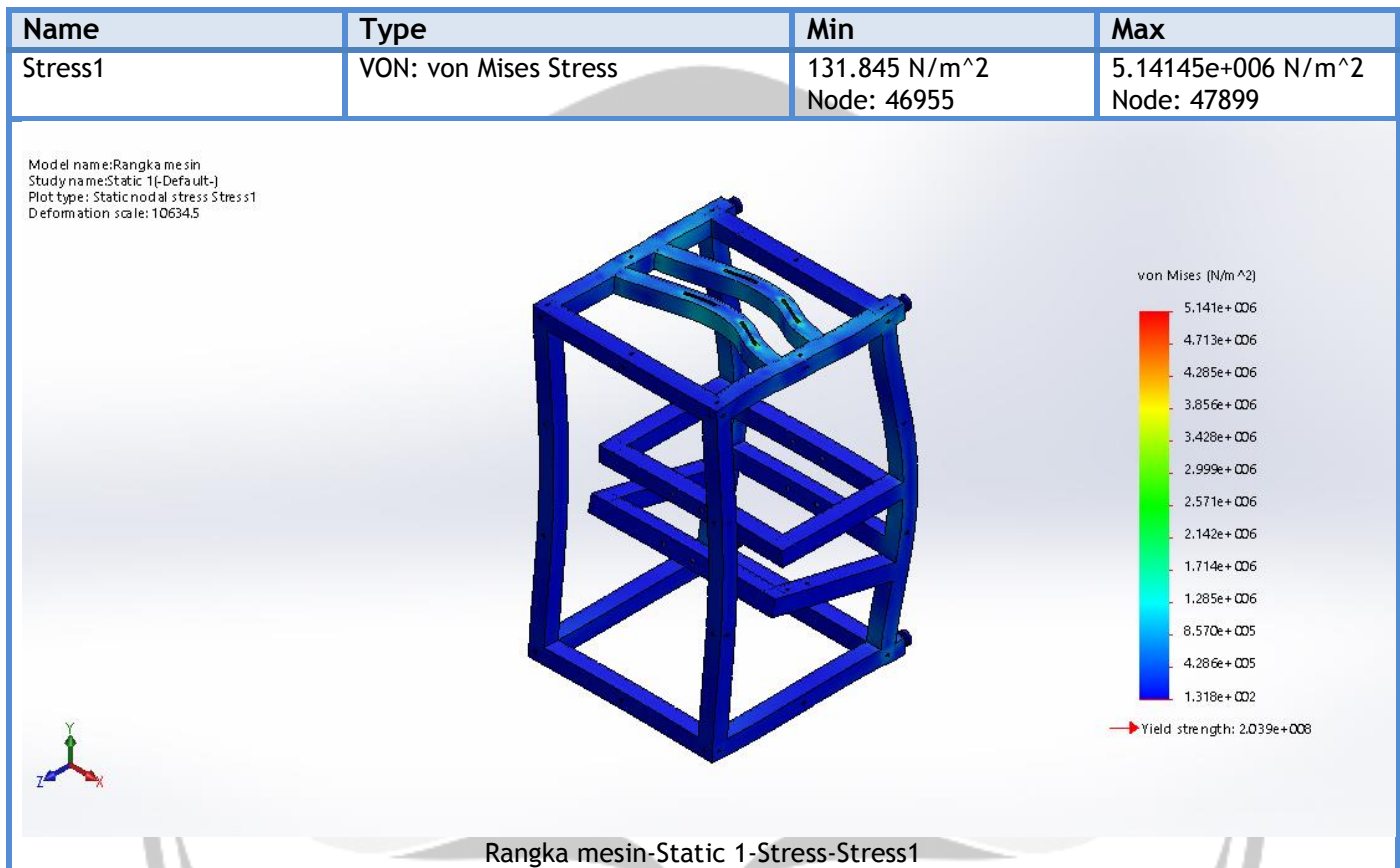
Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	0

Beams

No Data

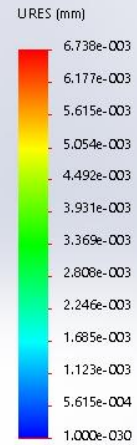
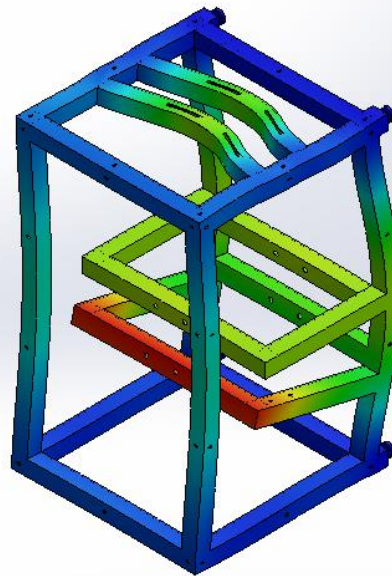


Study Results



Name	Type	Min	Max
Displacement1	URES: Resultant Displacement	0 mm Node: 977	0.00673826 mm Node: 5247

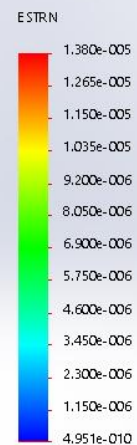
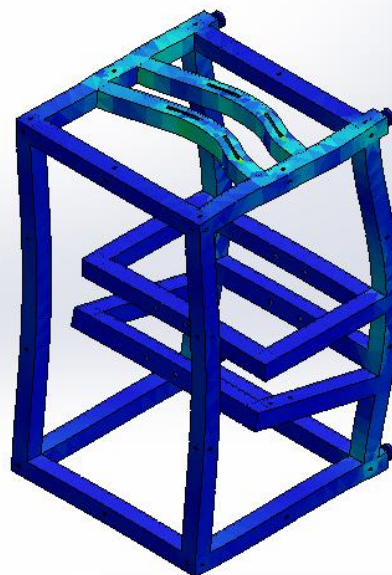
Model name:Rangka mesin
Study name:Static 1(-Default-)
Plot type: Static displacement Displacement1
Deformation scale: 10634.5



Rangka mesin-Static 1-Displacement-Displacement1

Name	Type	Min	Max
Strain1	ESTRN: Equivalent Strain	4.95074e-010 Element: 9356	1.37999e-005 Element: 21482

Model name:Rangka mesin
Study name:Static 1(-Default-)
Plot type: Static strain Strain1
Deformation scale: 10634.5



Rangka mesin-Static 1-Strain-Strain1

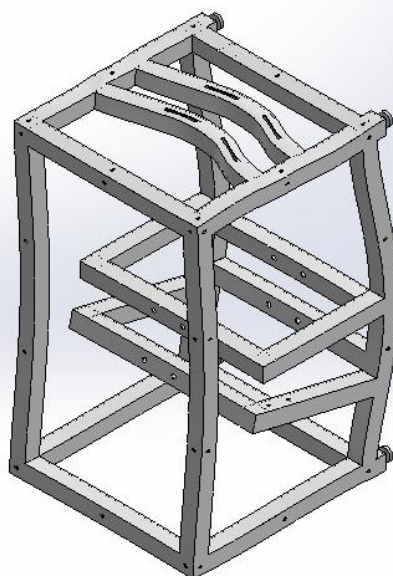
Name	Type
------	------



Displacement1{1}

Deformed shape

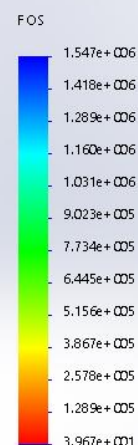
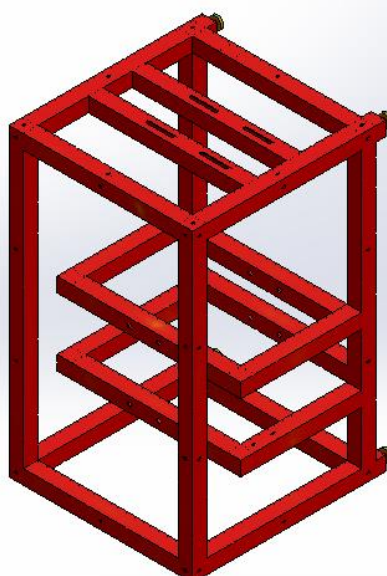
Model name:Rangka mesin
Study name:Static 1(-Default-)
Plot type: Deformed shape Displacement1{1}
Deformation scale: 10634.5



Rangka mesin-Static 1-Displacement-Displacement1{1}

Name	Type	Min	Max
Factor of Safety1	Automatic	39.6665 Node: 47899	1.54685e+006 Node: 46955

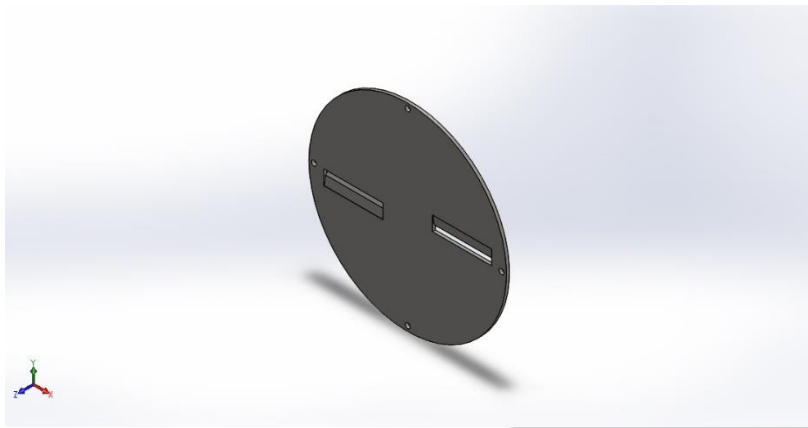
Model name:Rangka mesin
Study name:Static 1(-Default-)
Plot type: Factor of Safety Factor of Safety1
Criterion : Automatic
Factor of safety distribution: Min FOS = 40



Rangka mesin-Static 1-Factor of Safety-Factor of Safety1

Conclusion





Simulation of Mata potong

Date: Thursday, October 5, 2017
Designer: Davit Elfrado Purba
Study name: Static 3
Analysis type: Static

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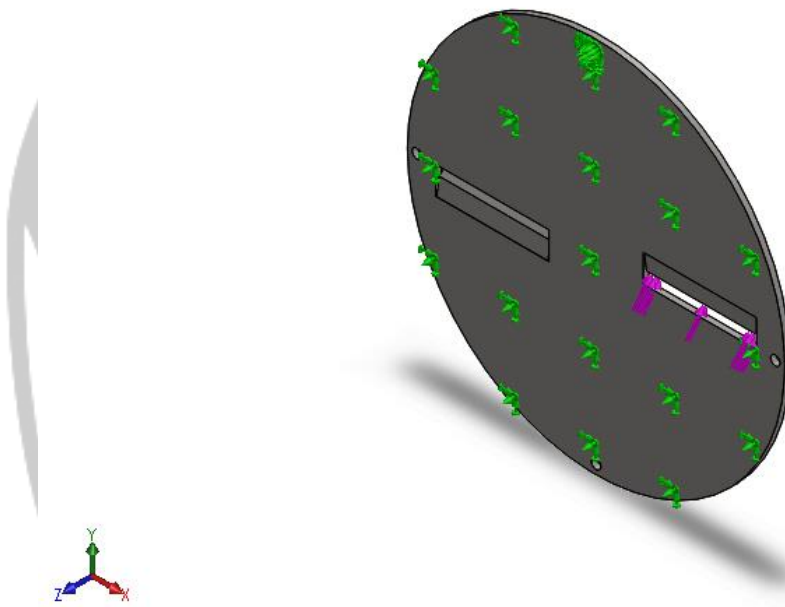
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Description
 No Data



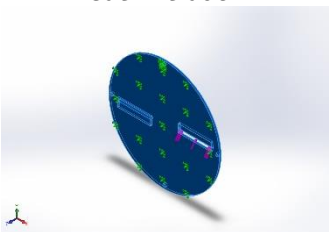
Assumptions

Model Information



Model name: Mata potong
Current Configuration: Default

Solid Bodies

Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Cut-Extrude4 	Solid Body	Mass:0.739469 kg Volume:9.24337e-005 m ³ Density:8000 kg/m ³ Weight:7.2468 N	D:\Tugas Akhir Cokelat\Design Solidworks newest\Mata potong.SLDPRT Oct 05 02:32:23 2017



Study Properties

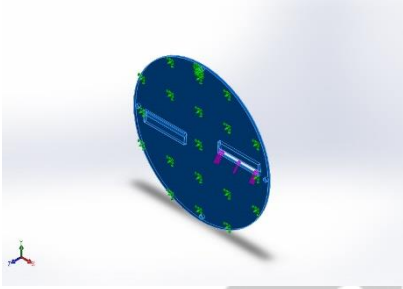
Study name	Static 3
Analysis type	Static
Mesh type	Solid Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	Off
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Friction	Off
Use Adaptive Method:	Off
Result folder	SOLIDWORKS document (D:\Tugas Akhir Cokelat\Design Solidworks newest)

Units

Unit system:	SI (MKS)
Length/Displacement	mm
Temperature	Kelvin
Angular velocity	Rad/sec
Pressure/Stress	N/m ²

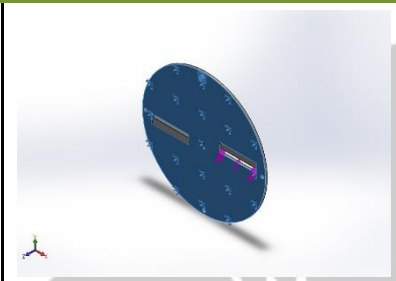


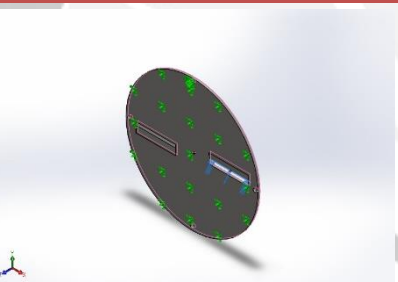
Material Properties

Model Reference	Properties	Components
	Name: AISI 304 Model type: Linear Elastic Isotropic Default failure criterion: Max von Mises Stress Yield strength: 2.06807e+008 N/m² Tensile strength: 5.17017e+008 N/m² Elastic modulus: 1.9e+011 N/m² Poisson's ratio: 0.29 Mass density: 8000 kg/m³ Shear modulus: 7.5e+010 N/m² Thermal expansion coefficient: 1.8e-005 /Kelvin	SolidBody 1(Cut-Extrude4)(Mata potong)
Curve Data:N/A		



Loads and Fixtures

Fixture name	Fixture Image	Fixture Details		
Fixed-1		Entities: 1 face(s) Type: Fixed Geometry		
Resultant Forces				
Components	X	Y	Z	Resultant
Reaction force(N)	0.001526	-95.583	72.5452	119.995
Reaction Moment(N.m)	0	0	0	0

Load name	Load Image	Load Details
Force-1		Entities: 1 face(s) Type: Apply normal force Value: 120 N

Connector Definitions

No Data

Contact Information

No Data



Mesh information

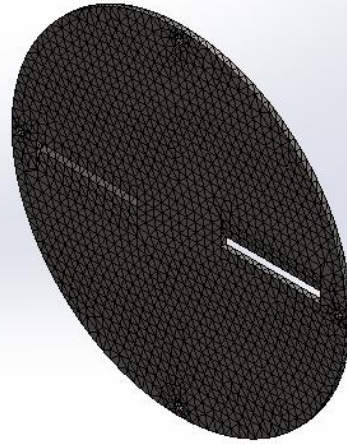
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	5.09295 mm
Tolerance	0.254648 mm
Mesh Quality	High

Mesh information - Details

Total Nodes	15935
Total Elements	7736
Maximum Aspect Ratio	27.074
% of elements with Aspect Ratio < 3	95.8
% of elements with Aspect Ratio > 10	0.181
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:01
Computer name:	MICROSOFT



Model name: Mata potong
Study name: Static 3(- Default-)
Mesh type: Solid Mesh



Sensor Details

No Data

Resultant Forces

Reaction forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	0.001526	-95.583	72.5452	119.995

Reaction Moments

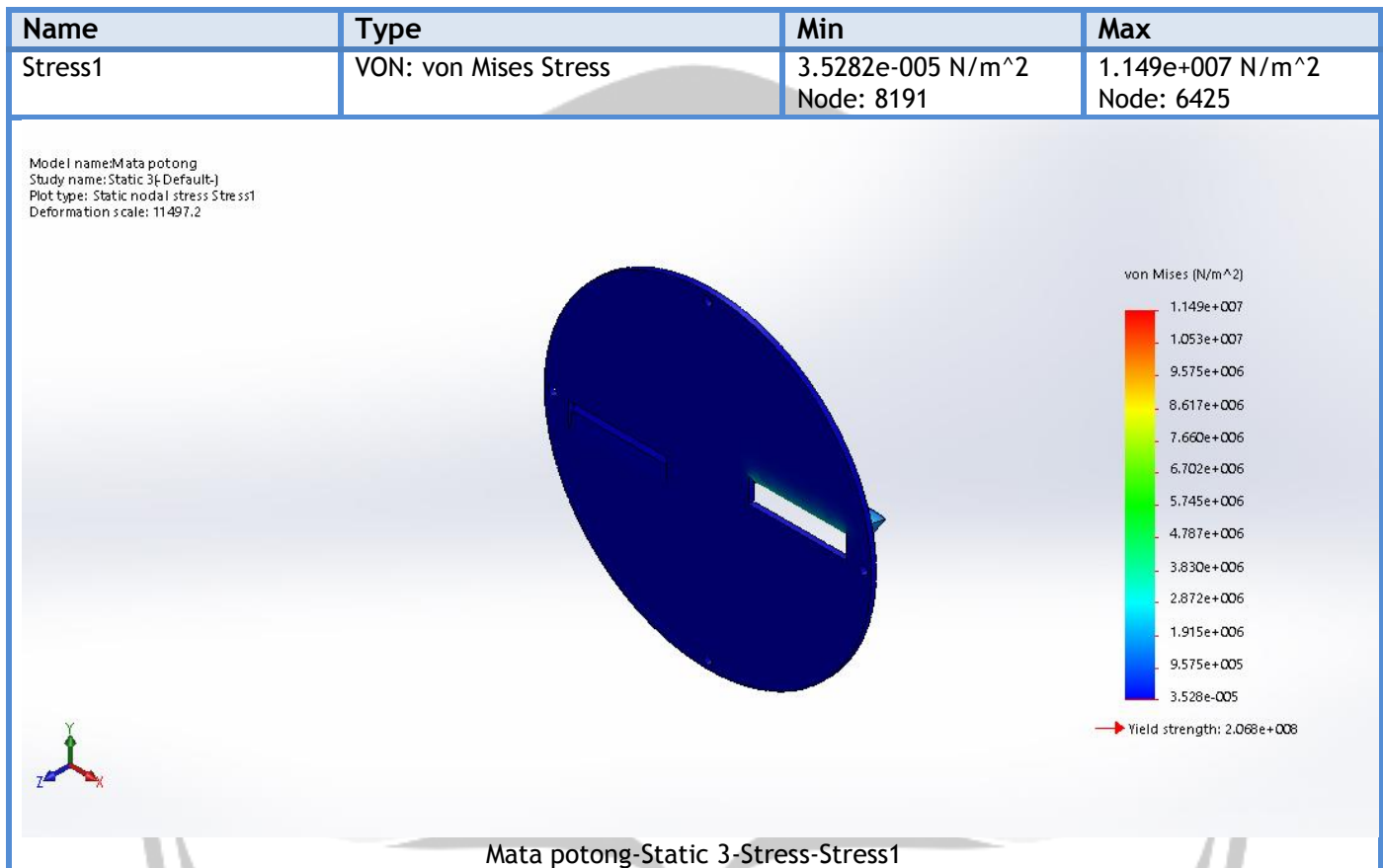
Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	0

Beams

No Data



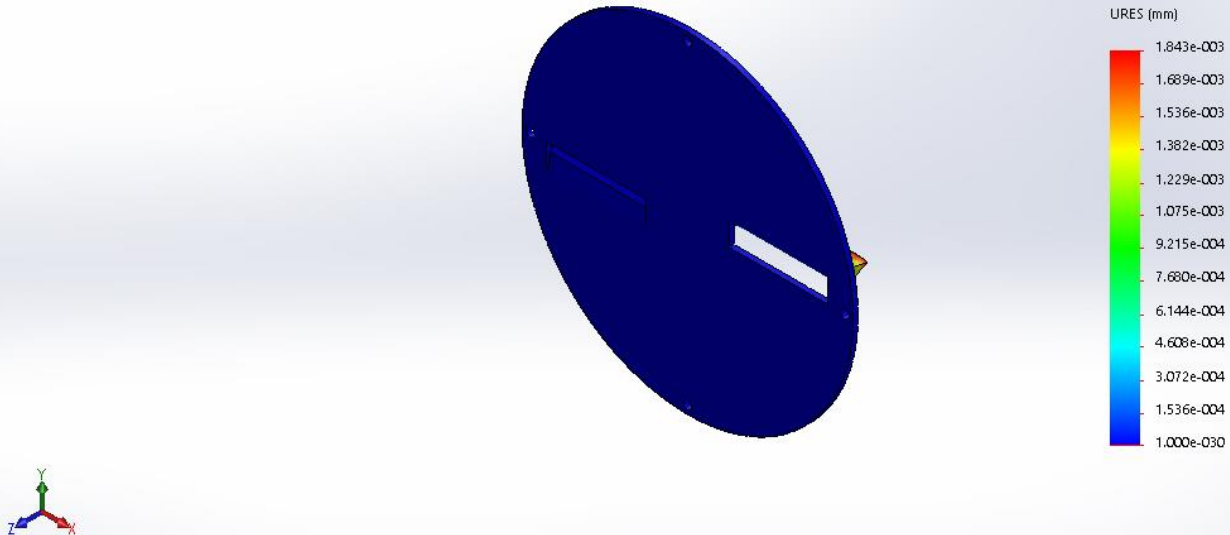
Study Results



Name	Type	Min	Max
Displacement1	URES: Resultant Displacement	0 mm Node: 1	0.00184308 mm Node: 2644



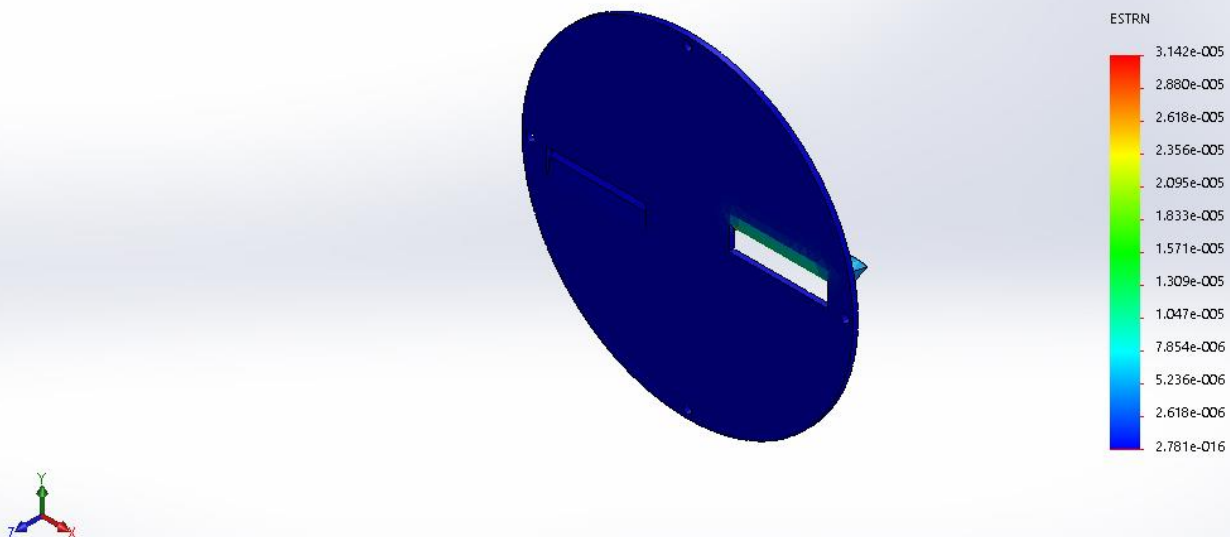
Model name: Mata potong
Study name: Static 3(-Default-)
Plot type: Static displacement: Displacement1
Deformation scale: 11497.2



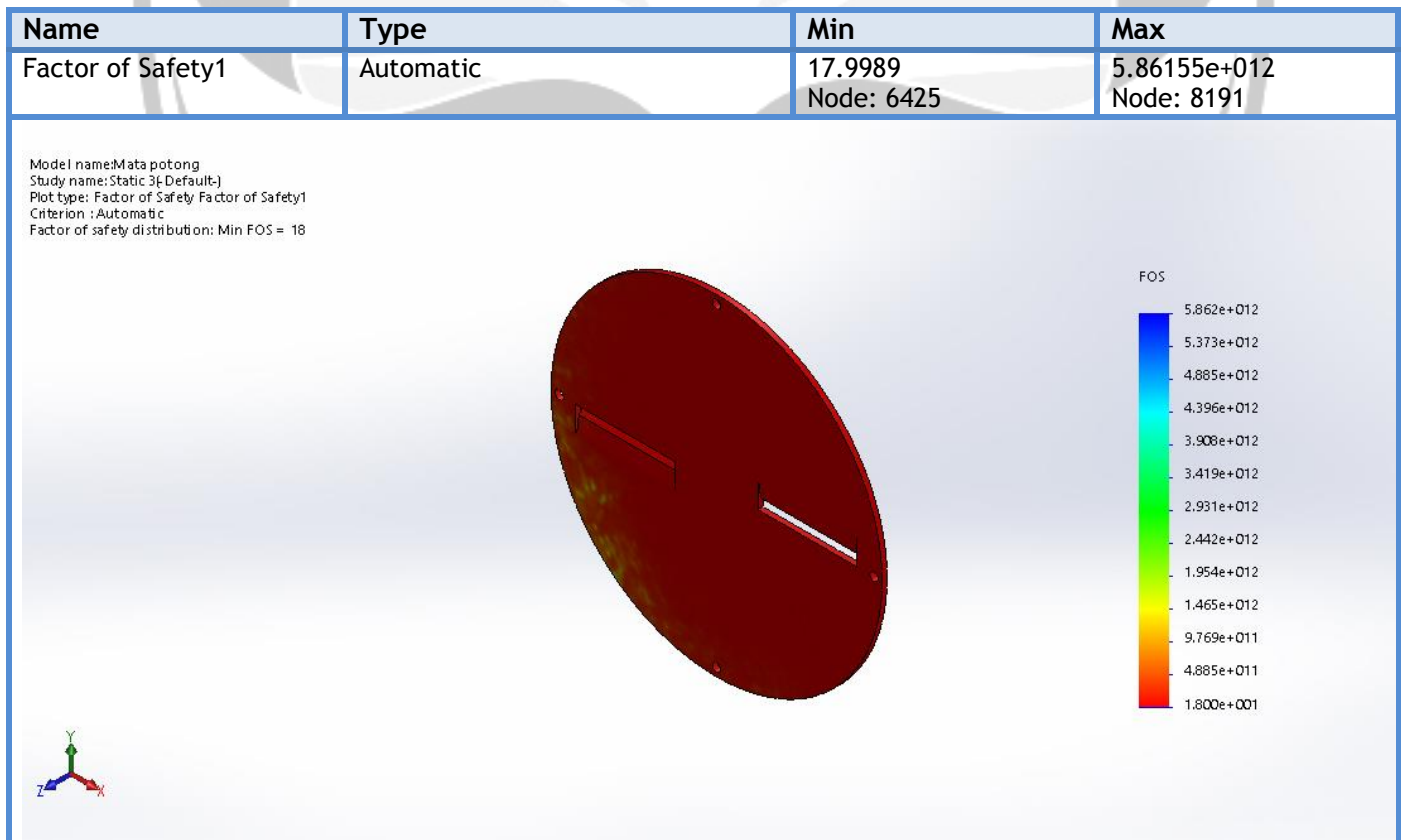
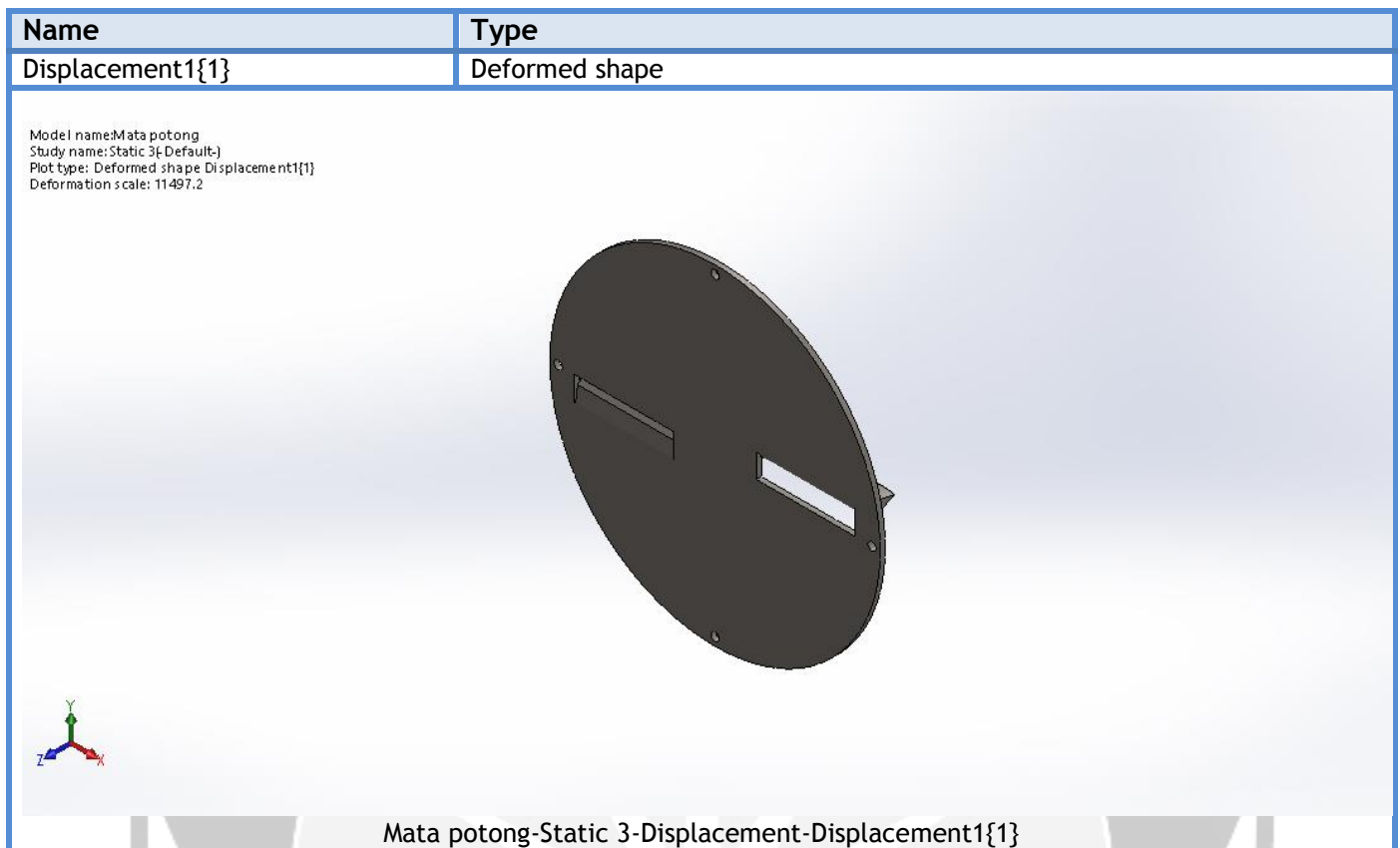
Mata potong-Static 3-Displacement-Displacement1

Name	Type	Min	Max
Strain1	ESTRN: Equivalent Strain	2.78074e-016 Element: 2508	3.1418e-005 Element: 4406

Model name: Mata potong
Study name: Static 3(-Default-)
Plot type: Static strain: Strain1
Deformation scale: 11497.2



Mata potong-Static 3-Strain-Strain1



Conclusion

