

**LAMPIRAN A**  
**“TABEL STANDAR PERHITUNGAN”**

**A.1 Tabel fz Pemakanan**

Material	End mill Face Cutting Depth Max 6 mm			Shell End Mill Face Mill	Form Cutter	Sloting & Side Mill
	<12	12-25	>25	>40	.	.
Plain carbon steel	0.025	0.075	0.1	0.1-0.3	0.125	0.05-0.2
Alloy Steel	0.025	0.05	0.075	0.1-0.3	0.1	0.05-0.2
Tool Steel CS 18-25 m/mnt	0.025	0.05	0.05	0.075-0.25	0.1	0.05-0.15
Tool Steel CS 05-17 m/mnt	0.025	0.05	0.05	0.075-0.2	0.075	0.05-0.125
Spring Steel	0.025	0.05	0.05	0.075-0.2	0.075	0.05-0.125
Stainless Steel						
304, 304L, 316, 316L	0.025	0.05	0.075	0.125-0.2	0.1	0.05-0.175
410, 416	0.025	0.05	0.075	0.1-0.15	0.1	0.05-0.175
420, 420F	0.025	0.05	0.05	0.075-0.5	0.075	0.05-0.175
440C, 440F	0.013	0.05	0.05	0.05-0.15	0.075	0.05-0.125
Copper	0.05	0.1	0.125	0.1-0.5	0.1	0.05-0.25
Lead Bronze	0.05	0.1	0.125	0.1-0.5	0.1	0.05-0.25
Phospor Bronze	0.05	0.075	0.1	0.075-0.3	0.1	0.05-0.2
Pure Aluminum	0.075	0.1	0.125	0.125-0.5	0.125	0.1-0.3
Aluminum Alloy	0.05	0.075	0.1	0.125-0.5	0.1	0.1-0.3
Cast Iron						
GG20,25	0.025	0.075	0.1	0.125-0.4	0.125	0.05-0.25
GG30,35,40,45,50	0.025	0.05	0.075	0.1-0.3	0.1	0.05-0.2
GG55,60	0.025	0.05	0.05	0.05-0.2	0.075	0.05-0.125

### A.2 Tabel Kecepatan Potong HSS

Bahan	Cutter HSS		Cutter Karbida	
	Halus	kasar	Halus	kasar
Baja Perkakas	75 - 100	25 - 45	185 - 230	110 - 140
Baja Karbon Rendah	70 - 90	25 - 40	170 - 215	90 - 120
Baja karbon Menengah	60 - 85	20 - 40	140 - 185	75 - 110
Besi Cor Kelabu	40 - 45	25 - 30	110 - 140	60 - 75
Kuningan	85 - 110	45 - 70	185 - 215	120 - 150
Aluminium	70 - 110	30 - 45	140 - 215	60 - 90

### A.3 Spesifikasi besar arus menurut tipe elektroda

Diameter elektroda (mm)	Tipe elektroda dan besarnya arus (Ampere)					
	E6010	E6013	E6014	E7018	E7024	E7028
2,0	-	30-80	80-110	70-100	-	-
2,6	-	70-110	110-160	110-160	-	-
3,2	80-120	80-140	140-180	120-170	140-190	140-190
4	120-160	120-190	140-210	150-220	180-250	180-250
5,0	150-200	200-275	200-275	200-275	230-305	230-305
6,3	-	330-415	315-400	335-430	300-420	335-430
8	-	-	390-500	375-475	-	-

(Sumber : Putri, 2010)

**A.4** Tabel kecepatan putaran mesin bubut



**A.5** Tabel kecepatan putaran mesin frais

SPINDLE SPEED					
50 Hz	65	115	185	270	
	600	985	1560	2350	
60 Hz	80	140	220	325	
	720	1180	1870	2800	

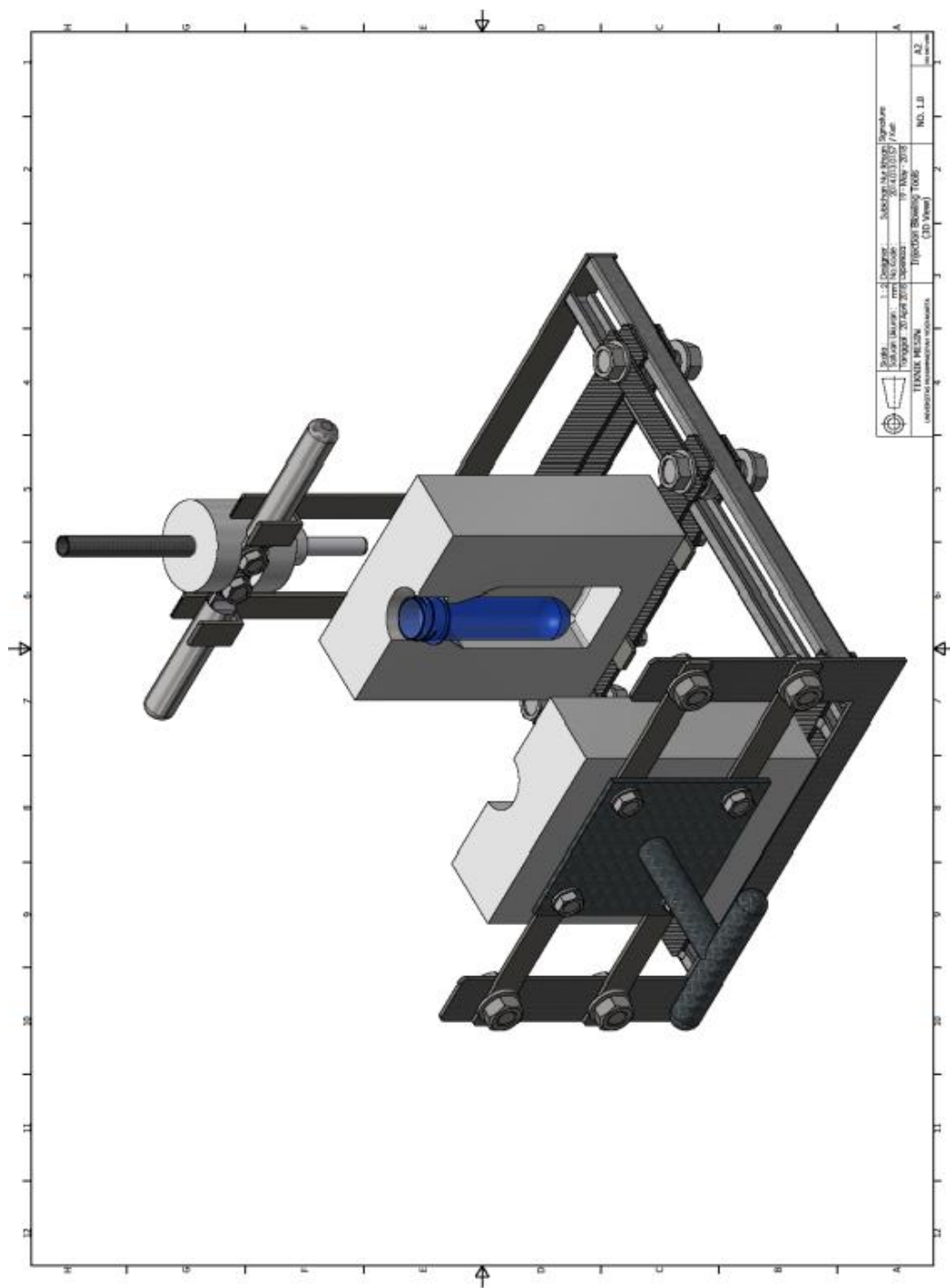
**A.6** Tabel kecepatan putaran mesin bor

INDUCTION MOTOR			
TYPE	YZ8024	POWER	3/4 HP
VOLTS	220 V	CYCLES	50 Hz
AMPS	4.25 A	R.P.M	1400r/min
CLASS	E		IP44

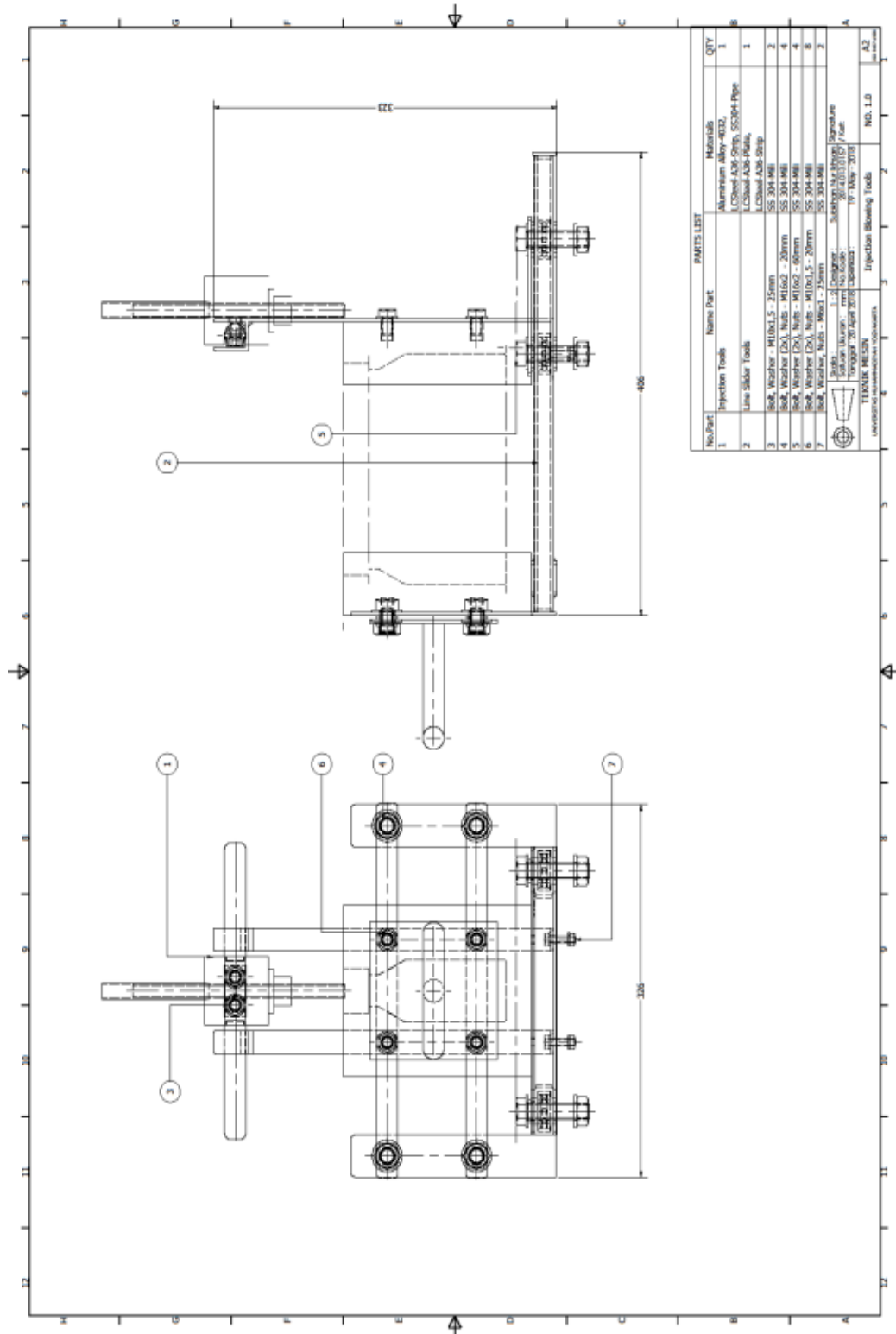
# LAMPIRAN B

## “DESAIN DAN HASIL PERANCANGAN”

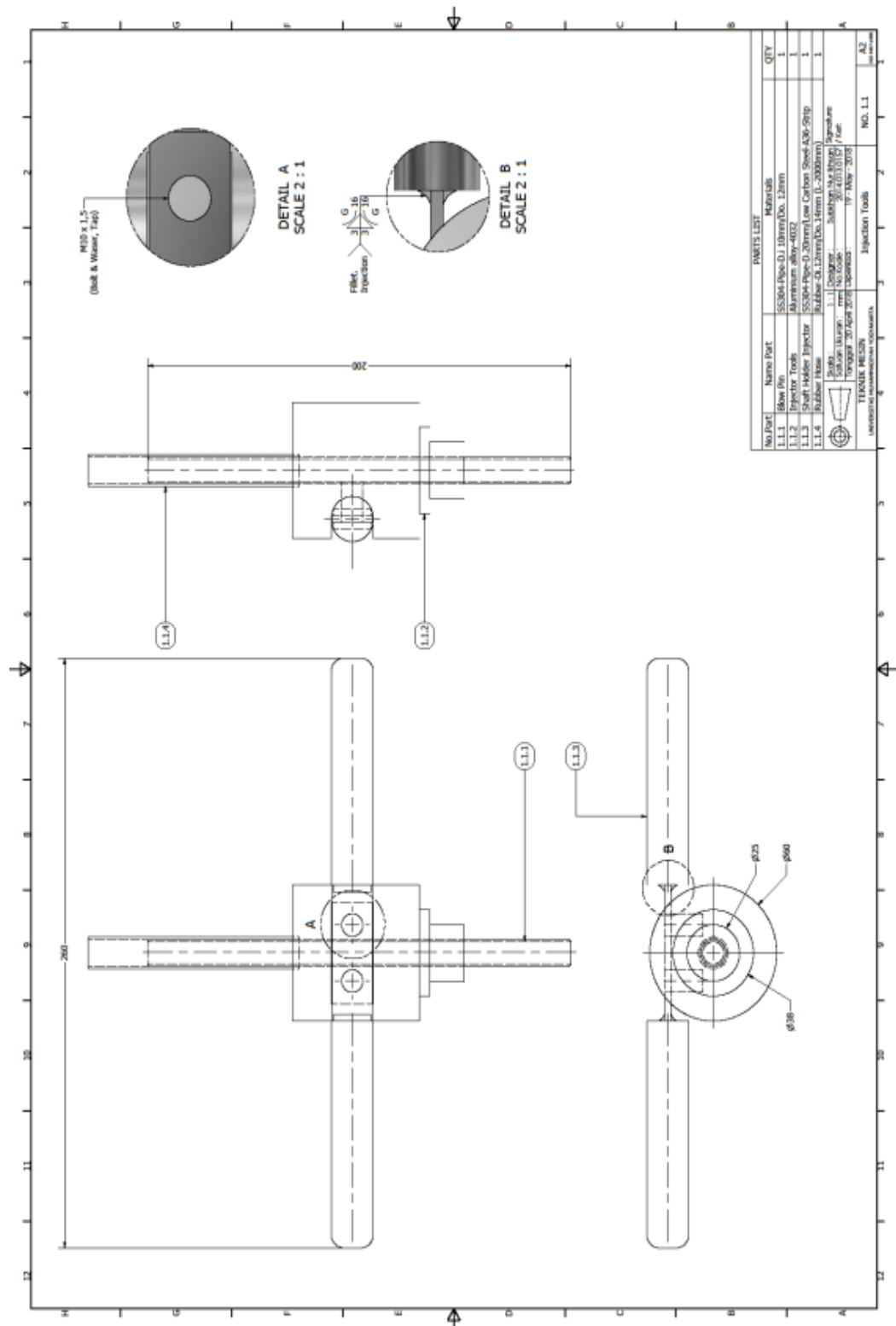
### B.1 Assembling injector tools and mold



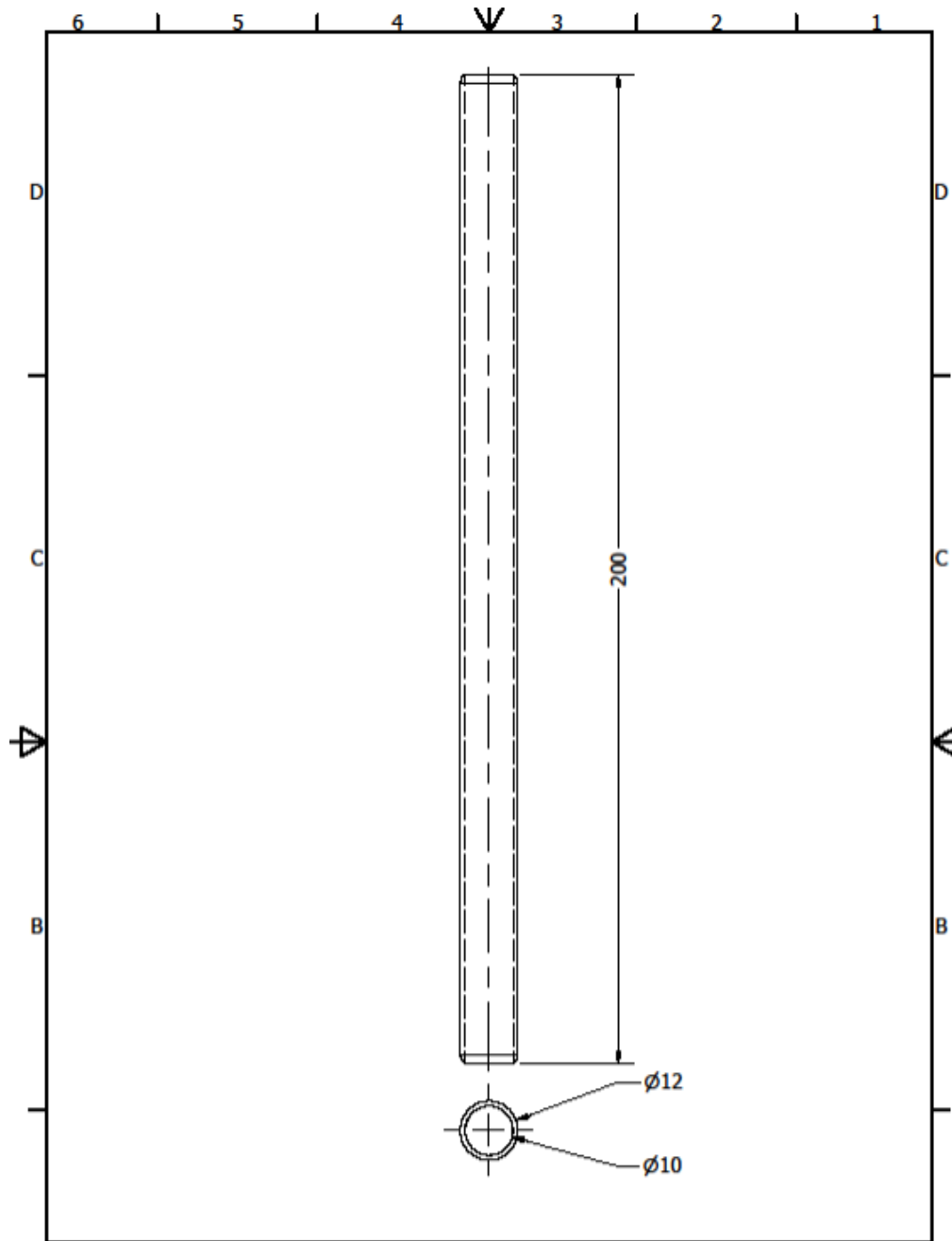
## B.2 Assembling injector and line slider



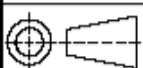
### B.3 Assembling injector tools

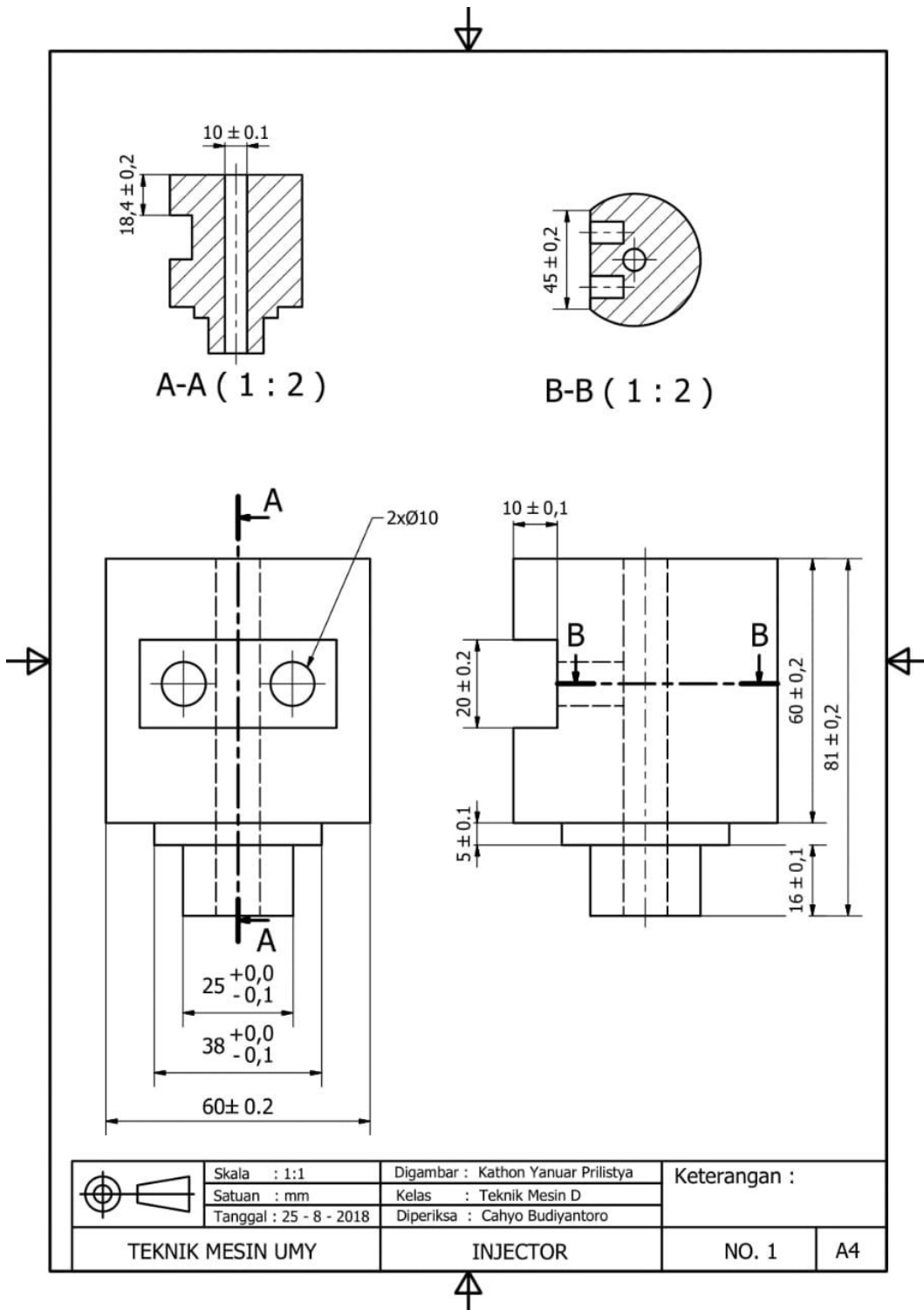


### B.4 Desain rancangan komponen *injector tools*

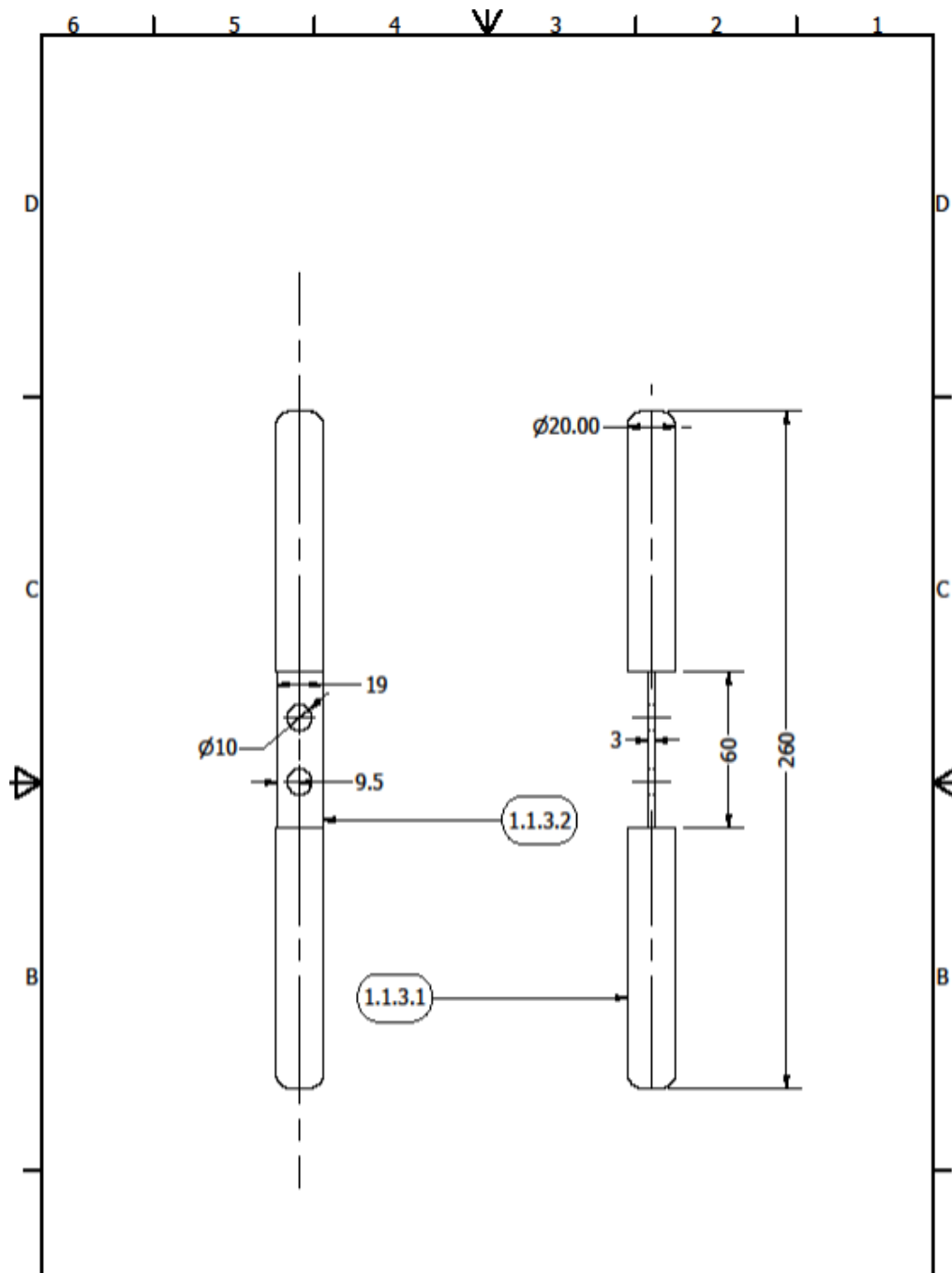


**PARTS LIST**

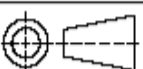
No.Part	Name Part	Materials
1.1.1	Blow Pin	SS304-Pipe-Di.10/Do.12
	Skala : 1 : 1	Designer : Subkhan Nur Ikhsan
	Satuan Ukuran : mm	No.Kode : 2014.013.0157
	Tanggal : 19 April 2018	Diperiksa : 19 - May - 2018
TEKNIK MESIN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA		Blow Pin NO. 1.1.1 A4 <small>ISO 5467:1999</small>



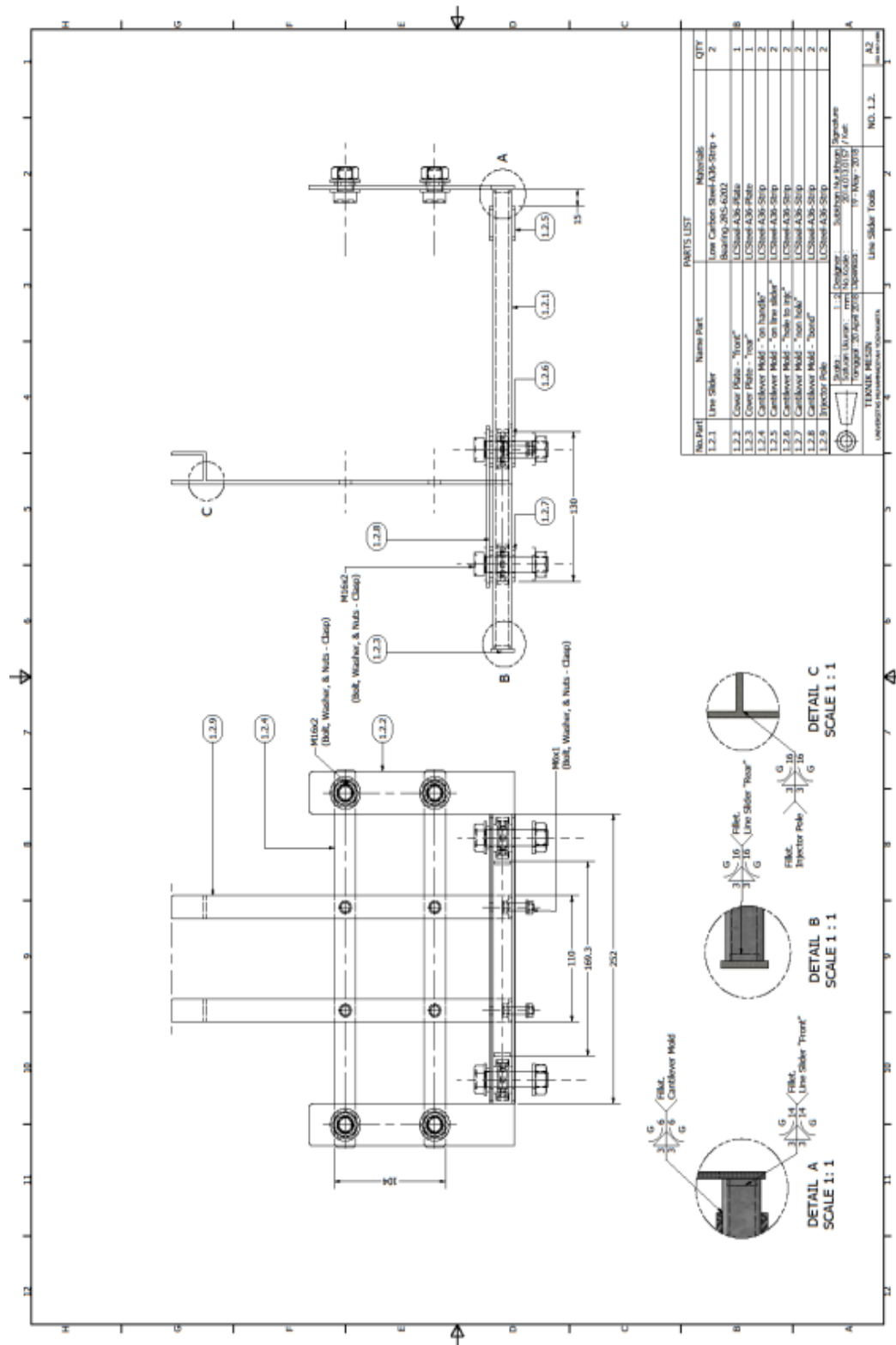


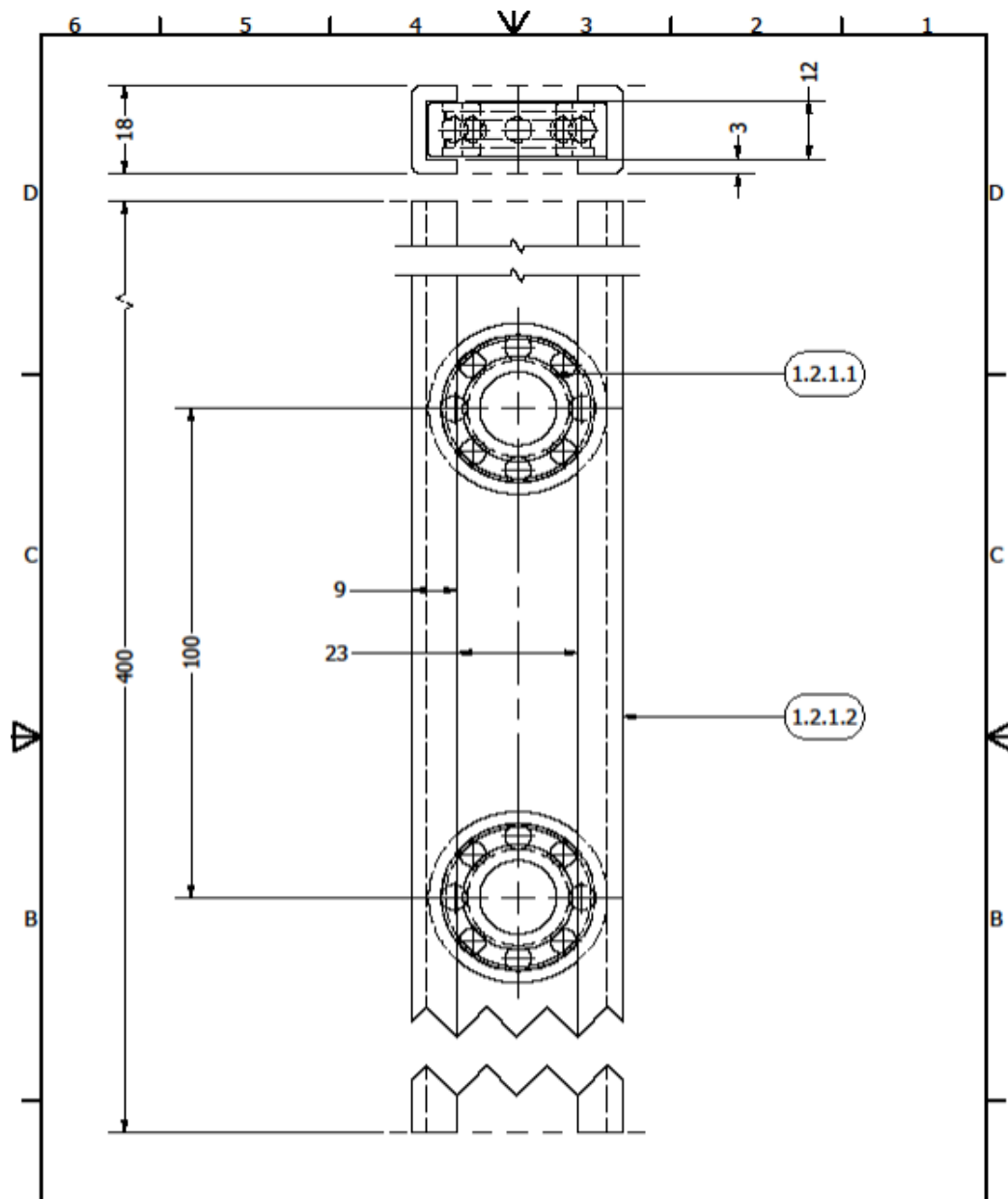


PARTS LIST

No.Part	Name Part	Materials	
1.1.3.1	Handle	SS304-Pipe-D.20mm	
1.1.3.2	Shaft	Low Carbon Steel-A36-Strip	
 Skala : 1 : 2 Satuan Ukuran : mm Tanggal : 19 April 2018		Designer : Subkhan Nur Ikhsan No.Kode : 2014.013.0157 Diperiksa : 19 - May - 2018	Signature / Ket:
TEKNIK MESIN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA		Shaft Holder Injector	NO. 1.1.3 A4 <small>ISO 5457:1999</small>

## B.5 Desain rancangan *line slider*





**PARTS LIST**

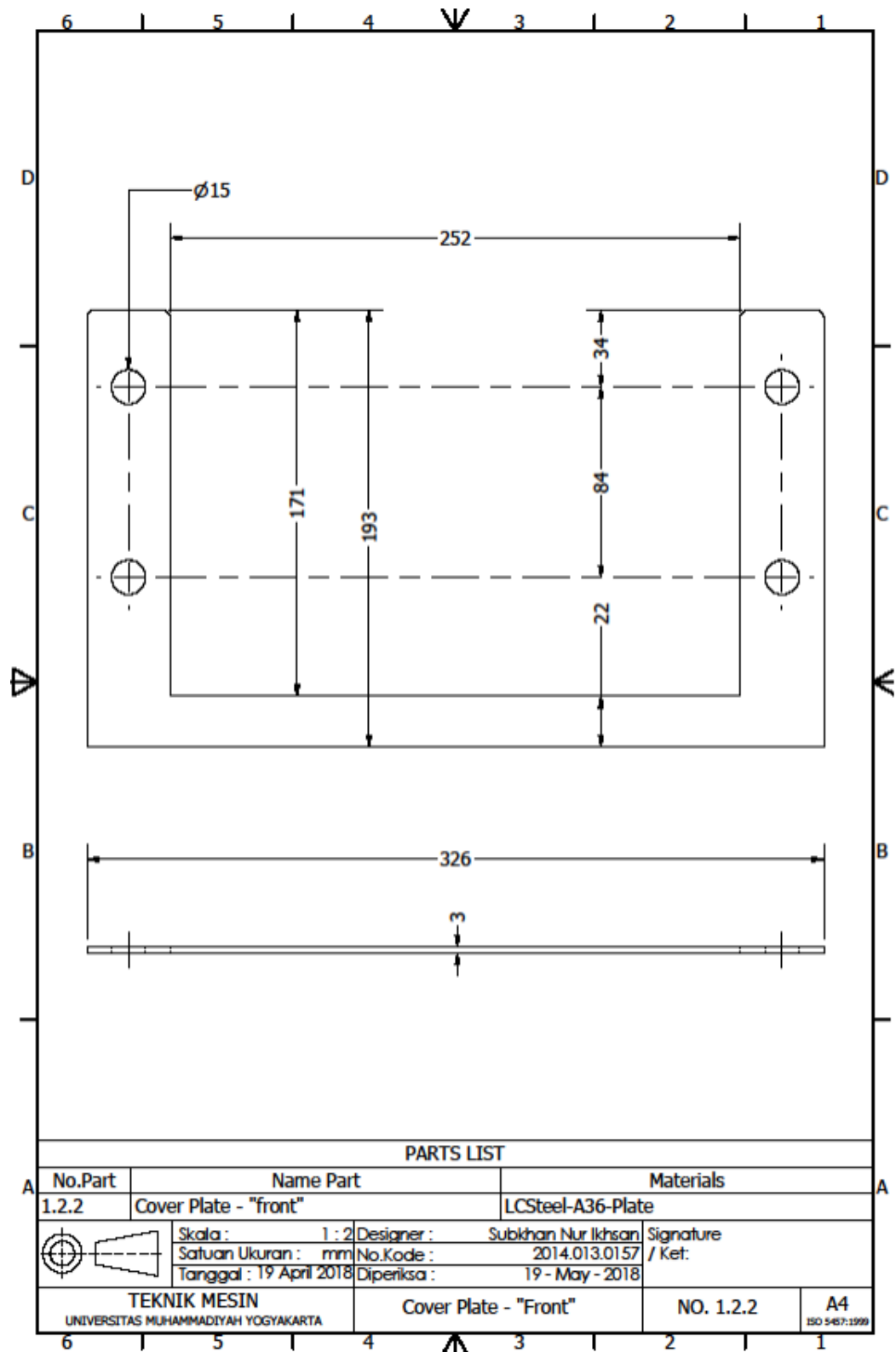
No.Part	Name Part	Materials	QTY
1.2.1.1	Bearing-2RS-6202	Steel	2
1.2.1.2	Steel Path	LCSteel-A36-Strip	2

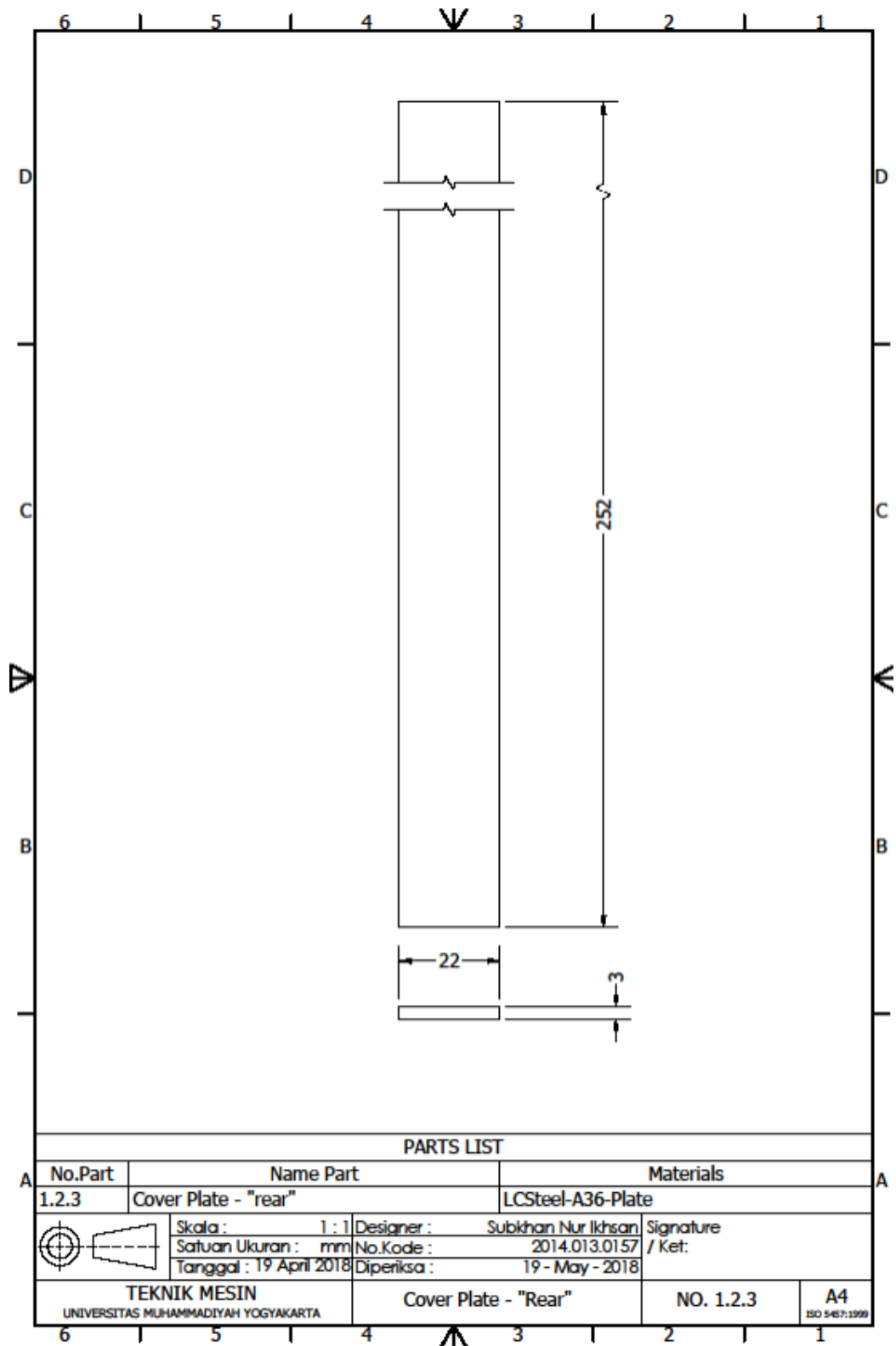
  

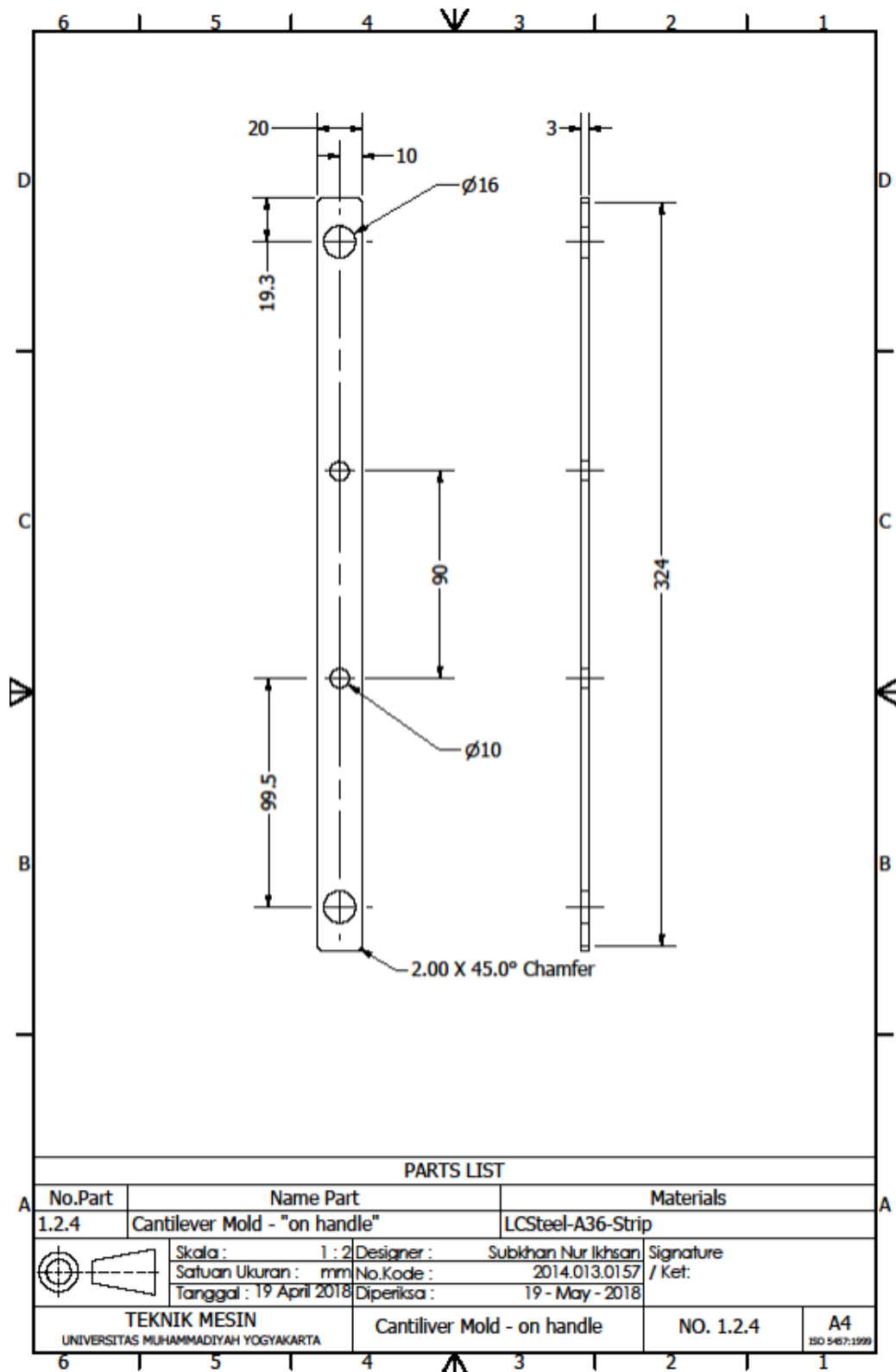
	Skala : 1 : 1	Designer : Subkhan Nur Ikhsan	Signature	
	Satuan Ukuran : mm	No.Kode : 2014.013.0157		/ Ket:
	Tanggal : 19 April 2018	Diperiksa : 19 - May - 2018		

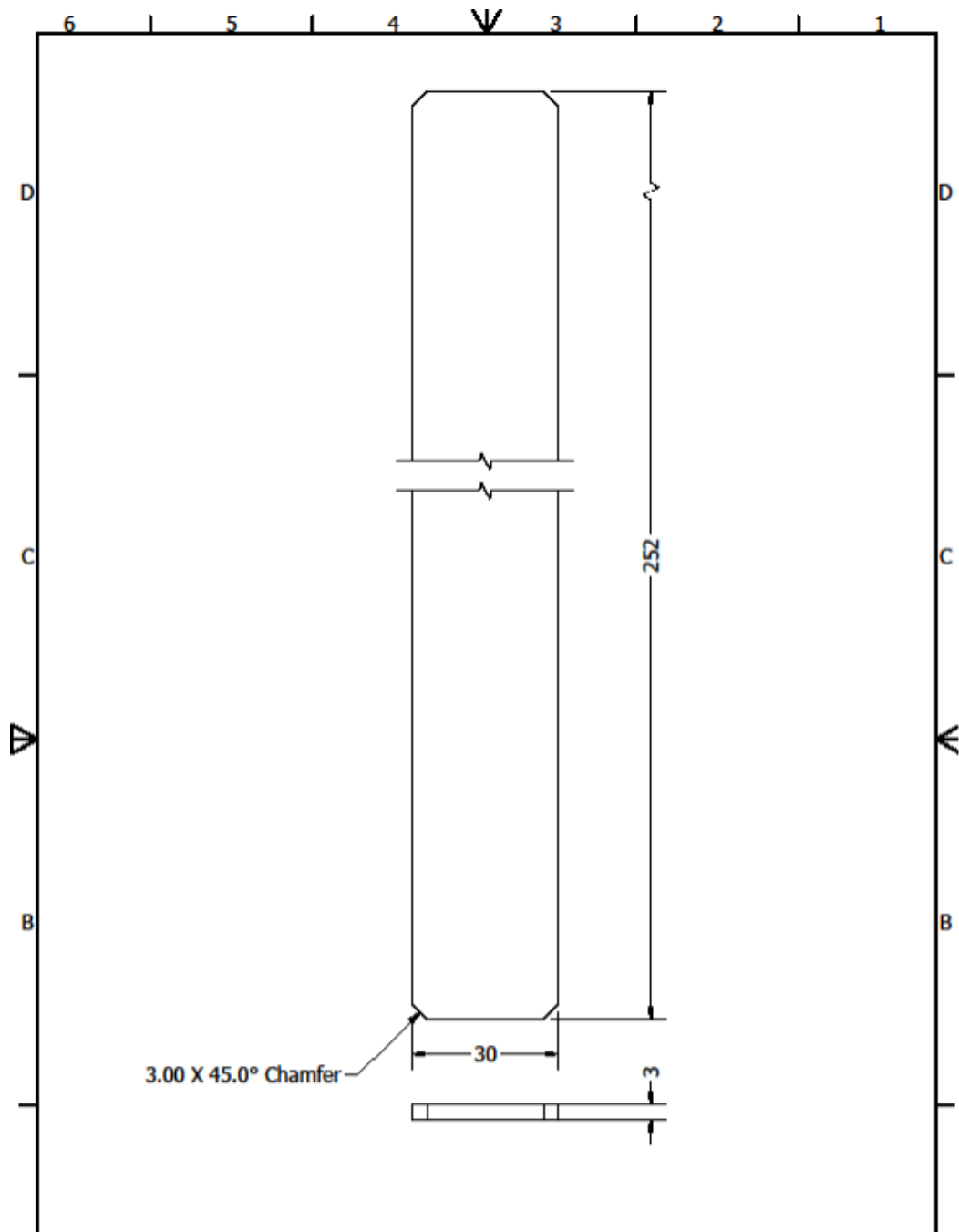
  

TEKNIK MESIN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA	Line Slider	NO. 1.2.1	A4 ISO 5467:1999
-----------------------------------------------------	-------------	-----------	---------------------



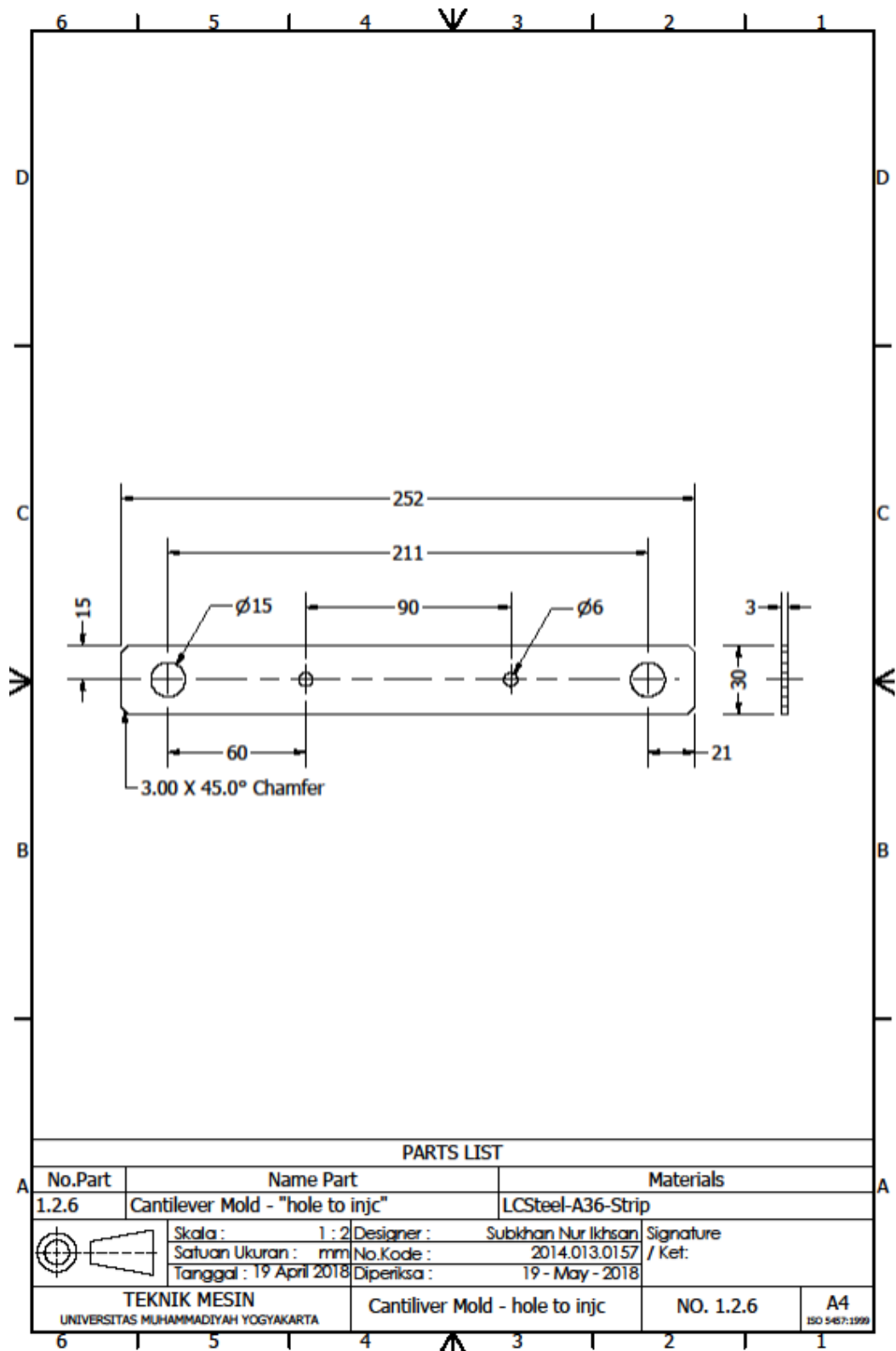




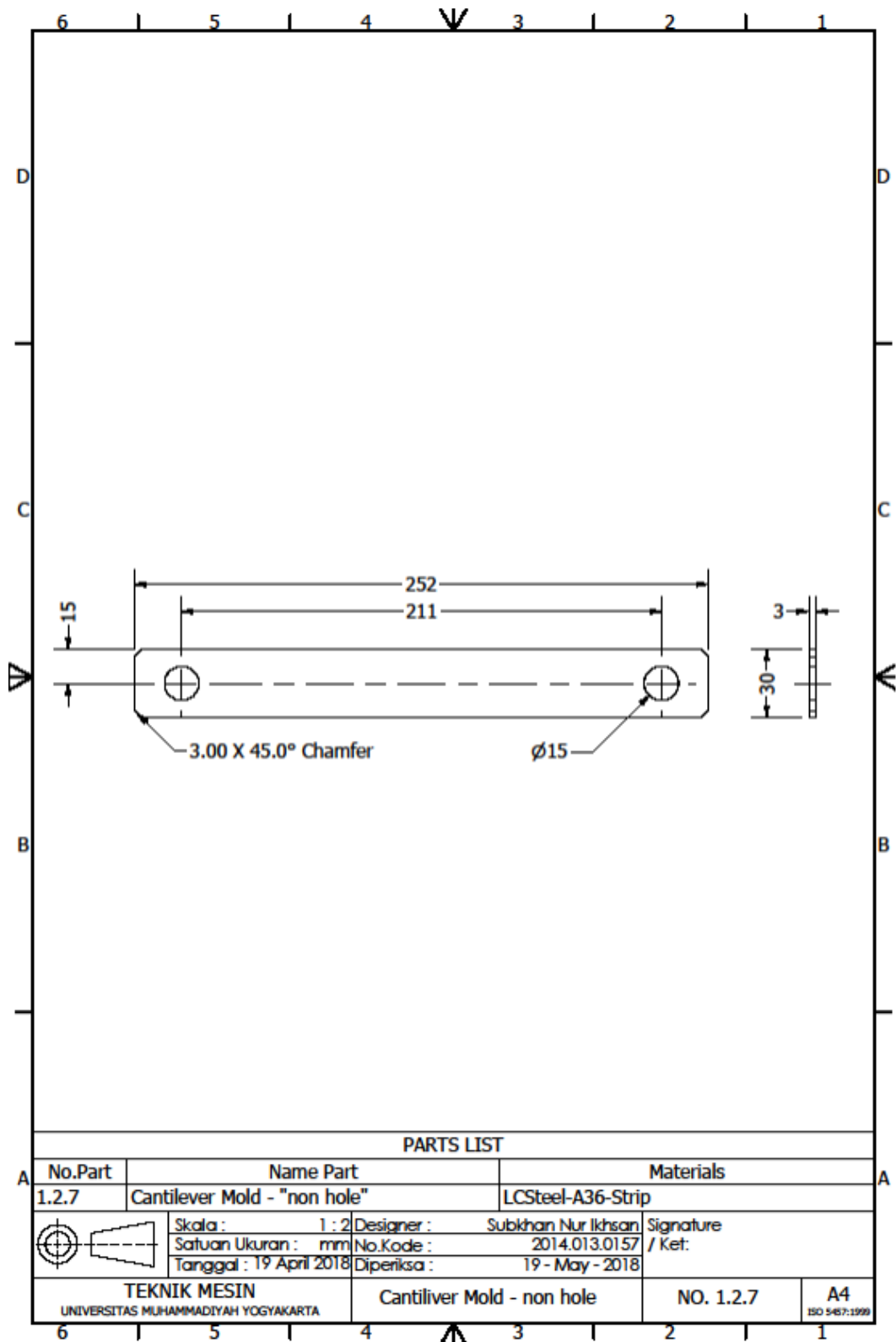


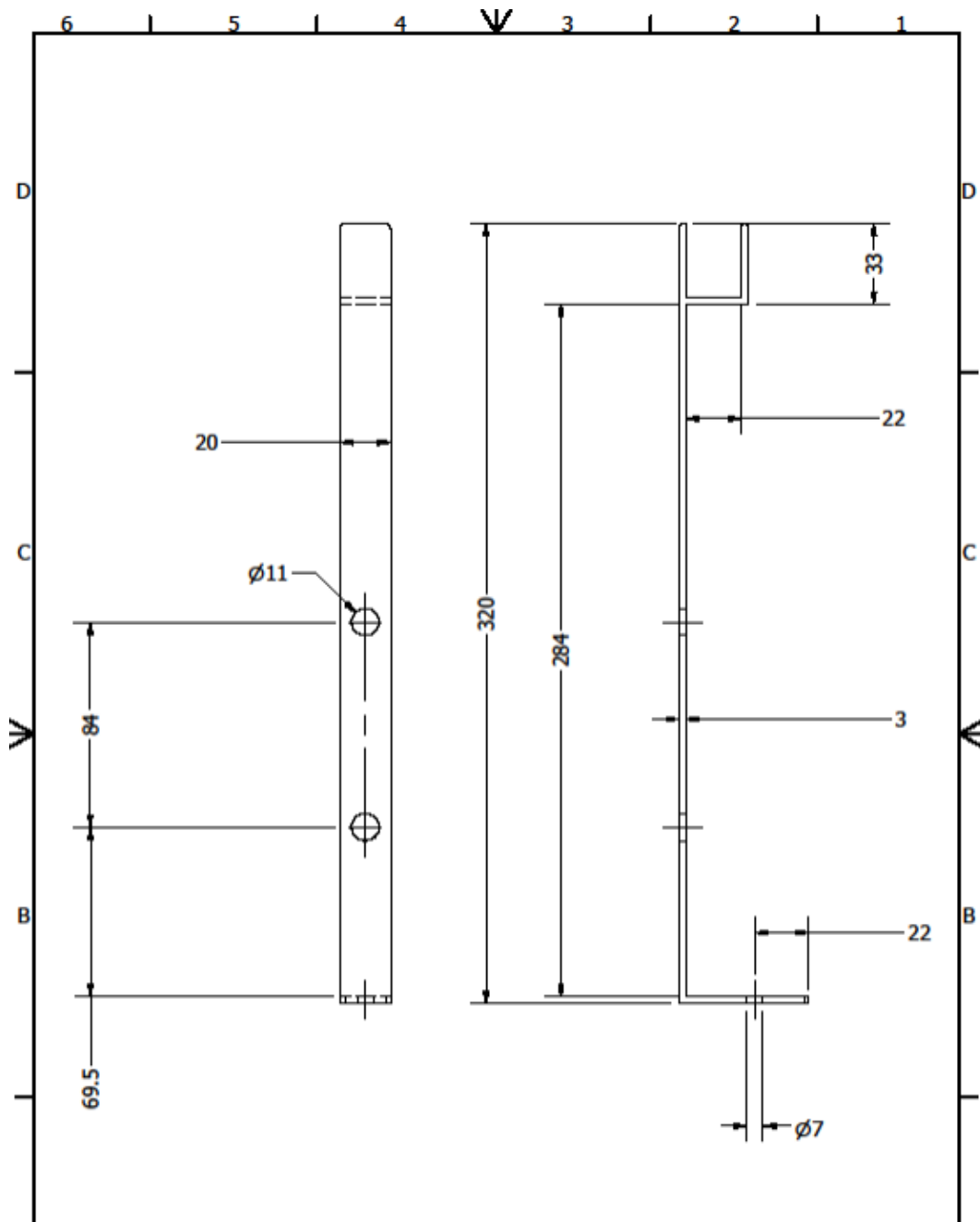
PARTS LIST

No.Part	Name Part	Materials
1.2.5	Cantilever Mold - "on line slider"	LCSteel-A36-Strip
	Skala : 1 : 1	Designer : Subkhan Nur Ikhsan
	Satuan Ukuran : mm	No.Kode : 2014.013.0157
	Tanggal : 19 April 2018	Diperiksa : 19 - May - 2018
TEKNIK MESIN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA		Cantiliver Mold - on line slider NO. 1.2.5 A4 <small>ISO 9457:1999</small>



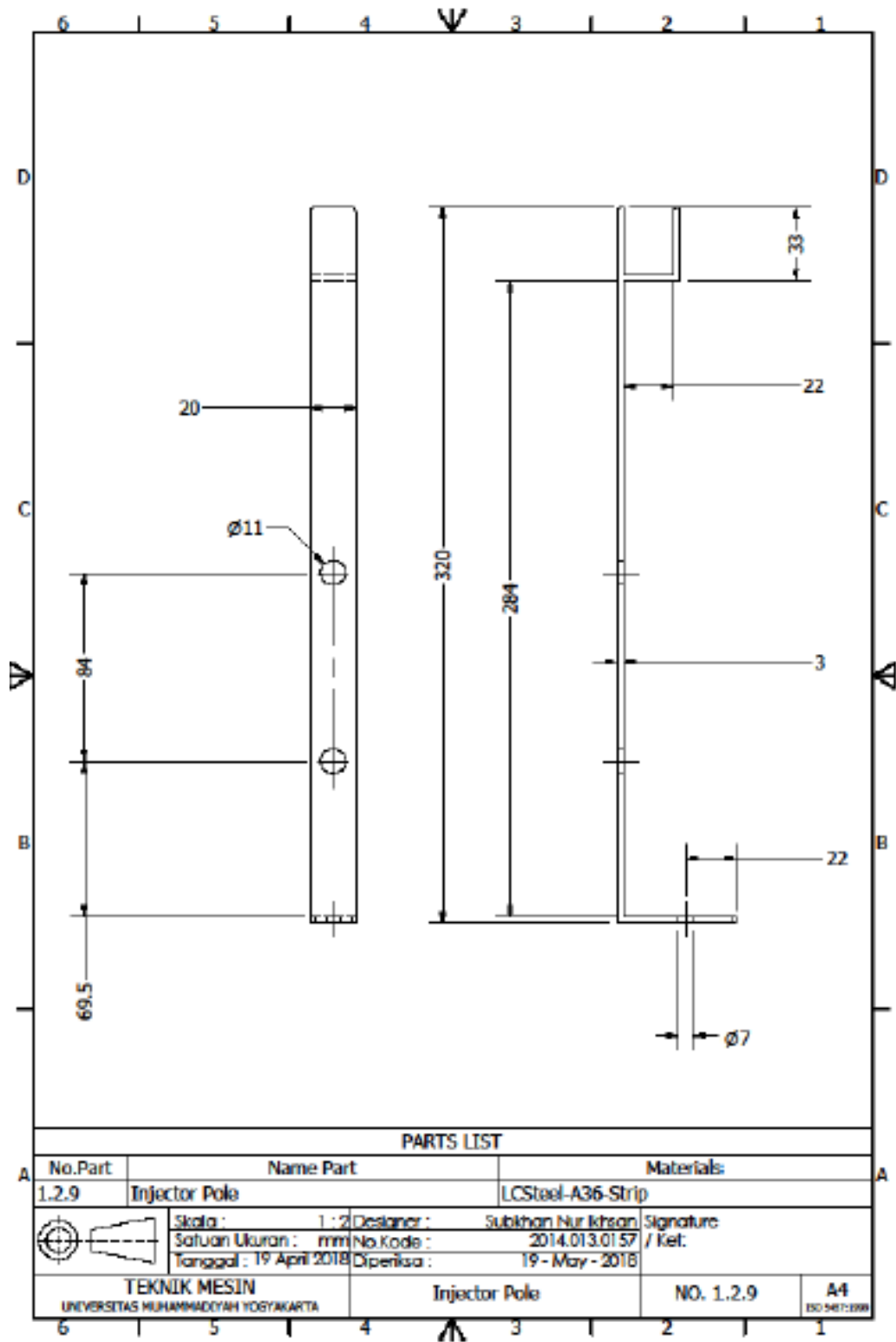






PARTS LIST

No.Part	Name Part	Materials
1.2.9	Injector Pole	LCSteel-A36-Strip
	Skala : 1 : 2	Designer : Subkhan Nur Ikhsan
	Satuan Ukuran : mm	No.Kode : 2014.013.0157
	Tanggal : 19 April 2018	Diperiksa : 19 - May - 2018
TEKNIK MESIN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA		Injector Pole NO. 1.2.9 A4 <small>ISO 5467:1999</small>



### B.6 Desain rancangan pola pada pengecoran

