

UNLESS OTHERWISE SPECIFIED $\begin{array}{ccc} \text{X} \pm 0.5 & \text{ANGLES} \pm 0.5 \text{ DEG} \\ \text{X.X} \pm 0.3 & \\ \text{X.XX} \pm 0.1 & \\ \text{X.XXX} \pm 0.05 & \\ \text{SURFACE ROUGHNESS Ra1.6} \mu\text{m} \\ \text{SHARP EDGES AND CORNERS R0.3 mm OR} \\ 0.3 \text{ mm x 45 DEG} \end{array}$

DRAWN BY:

TANG KANG NING

DATE:

16/10/2020

CHECKED BY:

CHONG YAO WEN

APPROVED BY:

DR. MAHZAN BIN JOHAR

SCA

CURTIN UNIVERSITY, MALAYSIA

REMARKS:

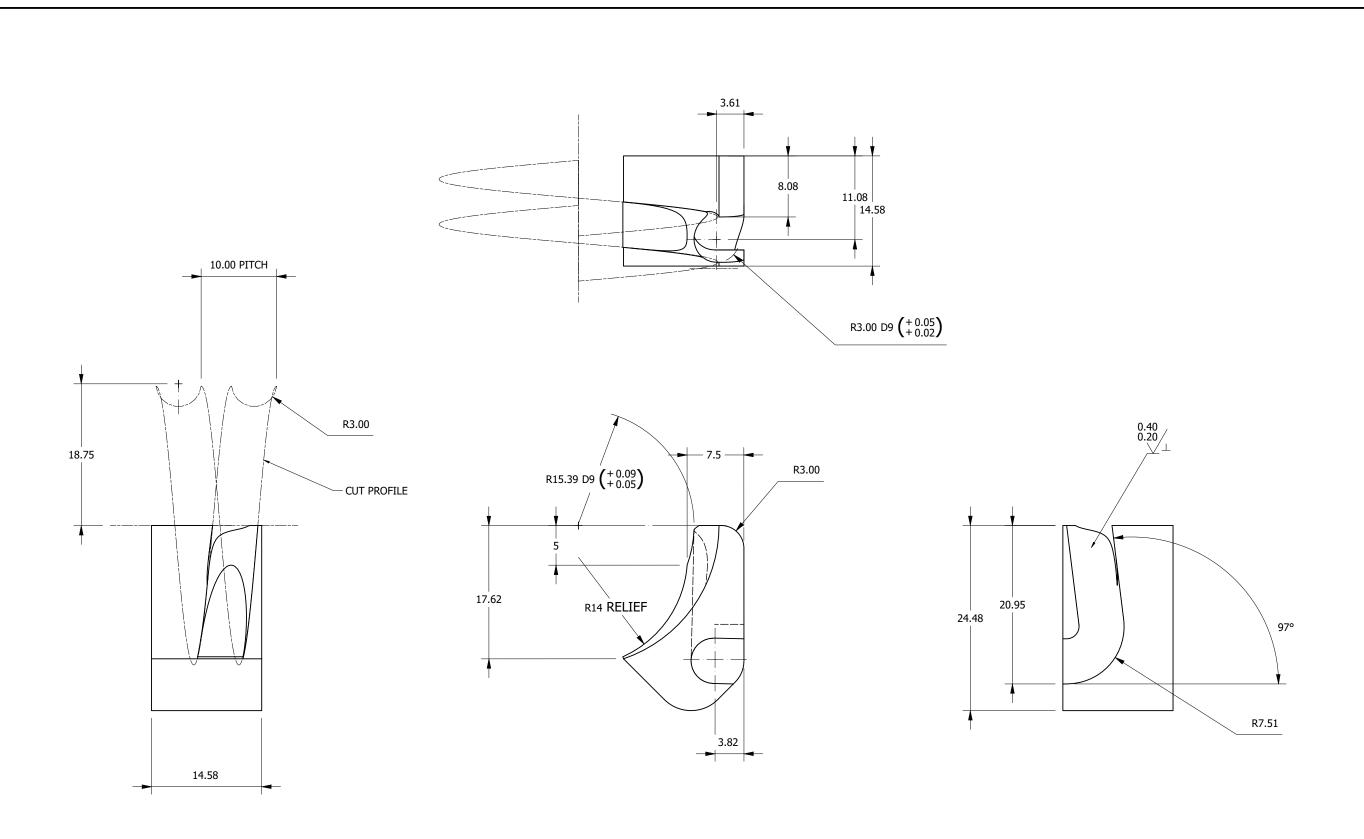
1/20

PART NUMBER:
MCEN4000:B2

SCALE:
1:2

MATERIAL:
STAINLESS STEEL, AISI 302

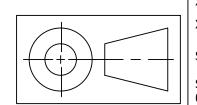
A3



ALL DIMENSIONS IN MM

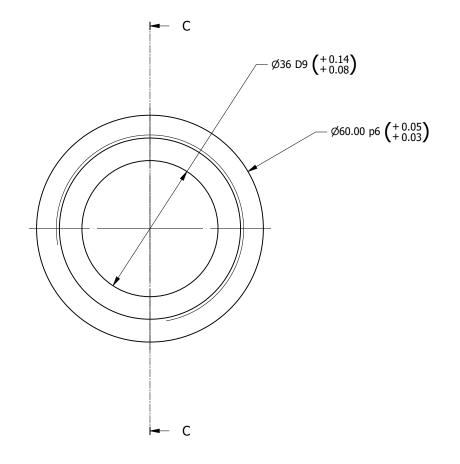
2/20

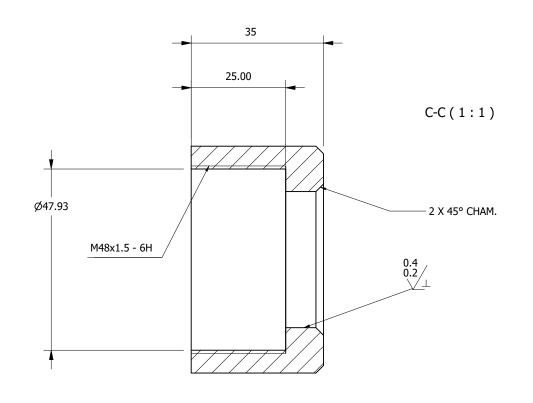
A3



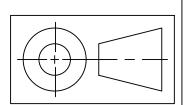
JNLESS OTHERWISE SPECIFIED		
〈 ± 0.5	ANGLES ± 0.5 DEG	
$X.X \pm 0.3$		
$X.XX \pm 0.1$		
$X.XXX \pm 0.05$		
SURFACE ROUGHNESS Ra1.6µm		
SHARP EDG	GES AND CORNERS R0.3 mm OR 5 DEG	

		DO NOT SC	ALE DIMENSIONS IN MIM	
DRAWN BY:	OLID T		". (ED CITY 144 1) (CI	_
TANG KANG NING	CURTIN UNIVERSITY, MALAYSIA			4
DATE:	REMARKS:			
14/10/2020				
CHECKED BY:				
CHONG YAO WEN	PART NUMBER:	DESCRIPTION		
APPROVED BY:	MCEN4000:B3		BALL SCREW DEFLECTOR	
DR. MAHZAN BIN JOHAR	SCALE: 2:1	MATERIAL:	STAINLESS STEEL, AISI 302	





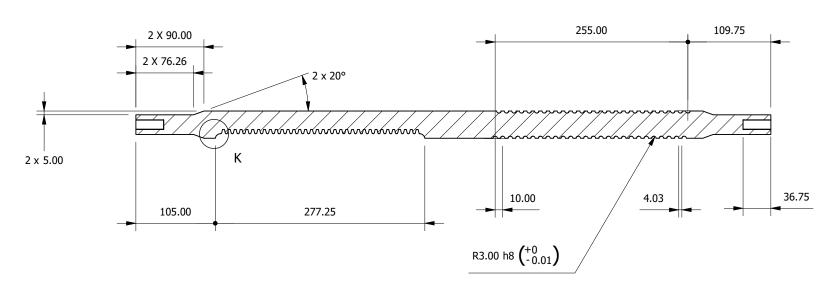
ALL DIMENSIONS IN MM

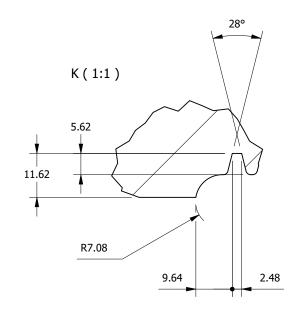


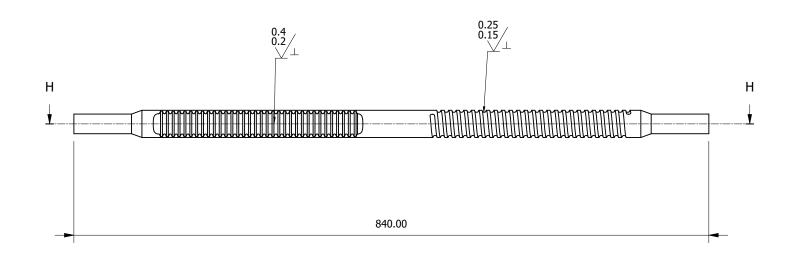
UNLESS OTHERWISE SPECIFIED $X \pm 0.5 \qquad \text{ANGLES} \pm 0.5 \text{ DEG}$ $X.X \pm 0.3$ $X.XX \pm 0.1$ $X.XXX \pm 0.05$ SURFACE ROUGHNESS Ra1.6 μ m SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

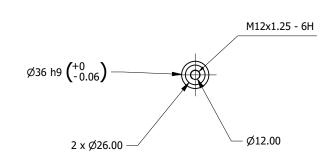
DRAWN BY: CURTIN UNIVERSITY, MALAYSIA TANG KANG NING DATE: REMARKS: 16/10/2020 3/20 CHECKED BY: CHONG YAO WEN PART NUMBER: DESCRIPTION: MCEN4000:B4 BALL SCREW DEFLECTOR FASTENER **A3** APPROVED BY: SCALE: 1:1 MATERIAL: DR. MAHZAN BIN JOHAR STAINLESS STEEL, AISI 302

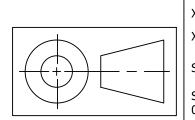






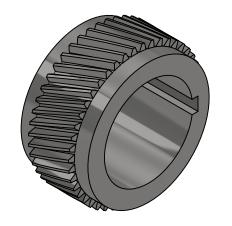


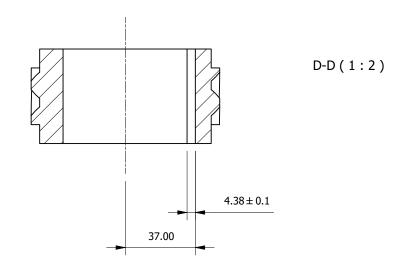


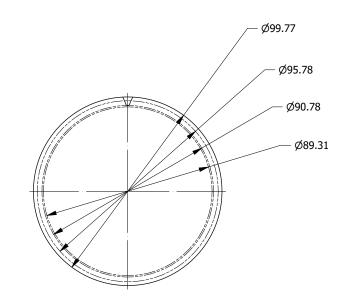


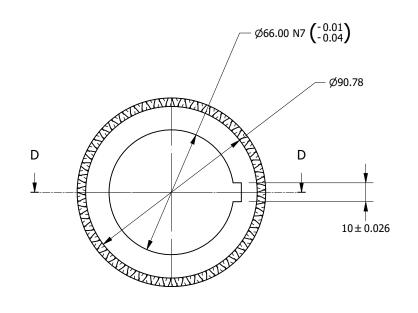
JNLESS OTHERWISE SPECIFIED			
K ± 0.5	ANGLES ± 0.5 DEG		
$X.X \pm 0.3$			
$X.XX \pm 0.1$			
X.XXX ± 0.05			
SURFACE ROUGHNESS Ra1.6µm			
SHARP EDG	SES AND CORNERS R0.3 mm OR 5 DEG		

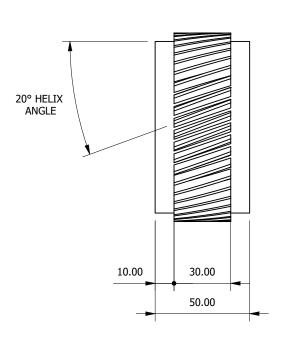
DRAWN BY:	CURTIN UNIVERSITY, MALAYSIA REMARKS:		
TANG KANG NING			
DATE:			
18/10/2020			
CHECKED BY:			
CHONG YAO WEN	PART NUMBER:	DESCRIPTION:	
APPROVED BY:	MCEN4000:B5	STEERING RACK/ BALL SCREW'S SCREW	A 3
DR. MAHZAN BIN JOHAR	SCALE: 1 : 5	MATERIAL: STAINLESS STEEL, AISI 302	7



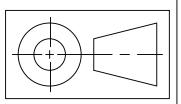








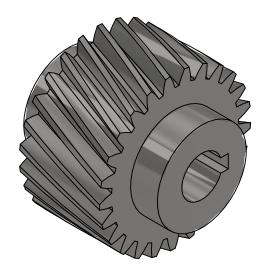
ALL DIMENSIONS IN MM

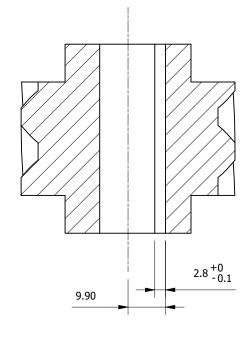


	UNLESS OTHERWISE SPECIFIED		
$X \pm 0.5$ ANGLES ± 0.5 DEG			
	$X.X \pm 0.3$		
	X.XX ± 0.1		
	X.XXX ± 0.05		
	SURFACE RO	UGHNESS Ra1.6µm	
	SHARP EDGE 0.3 mm x 45	S AND CORNERS R0.3 mm OR DEG	

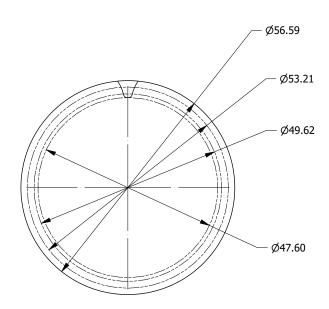
DRAWN BY: DATE CHEC APPR

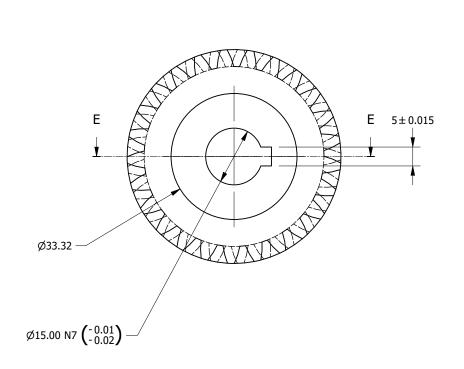
AWIN DT:			
TANG KANG NING	CURTIN UNIVERSITY, MALAYSIA		
TE: 20/10/2020 ECKED BY:	REMARKS:		5/20
CHONG YAO WEN	PART NUMBER: MCEN4000:G1	DESCRIPTION: GEAR (ATTACHED AT THE NUT)	۸ ၁
DR. MAHZAN BIN JOHAR	SCALE: 1:2	MATERIAL: STEEL, AISI 1040	A3

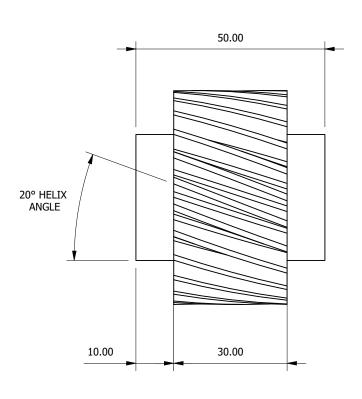




E-E (1:1)

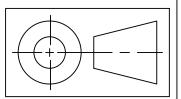






MATERIAL:

ALL DIMENSIONS IN MM



UNLESS OTHERWISE SPECIFIED			
X ± 0.5	ANGLES ± 0.5 DEG		

 $X.X \pm 0.3$

 $X.XX \pm 0.1$

 $X.XXX \pm 0.05$

SURFACE ROUGHNESS Ra1.6µm

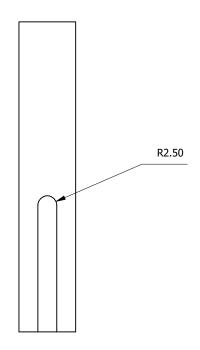
SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

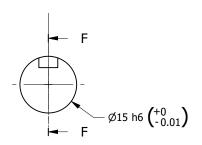
DRAWN BY:	
TANG KANG NING	CL
DATE:	REMARKS:
20/10/2020	
CHECKED BY:	
CHONG YAO WEN	PART NUMBER:
APPROVED BY:	MCEN4000
DR. MAHZAN BIN JOHAR	SCALE: 1:1

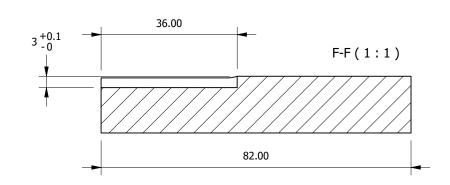
CURTIN UNIVERSITY, MALAY	'SIA
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1ARKS: 6/20 T NUMBER: DESCRIPTION: MCEN4000:G2 IDLE GEAR **A3**

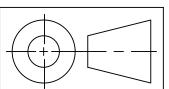
STEEL, AISI 1040







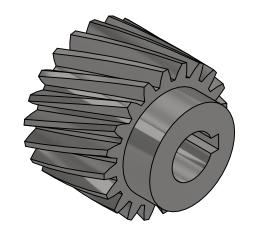
ALL DIMENSIONS IN MM

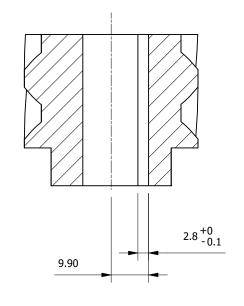


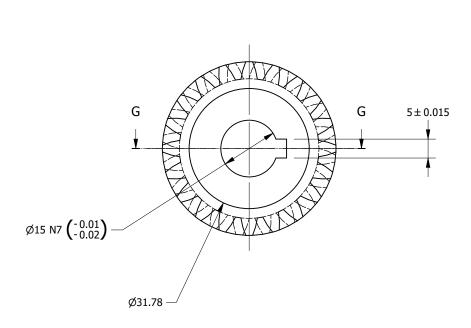
SURFACE ROUGHNESS Ra1.6µm

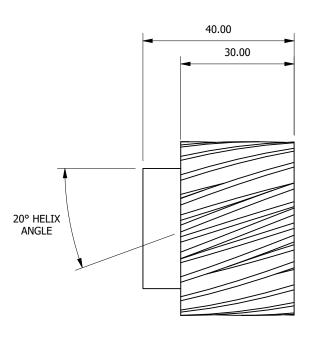
SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

DRAWN BY: TANG KANG NING	CURTIN UNIVERSITY, MALAYSIA		
DATE: 18/10/2020 CHECKED BY:	REMARKS:		7/20
CHONG YAO WEN APPROVED BY:	PART NUMBER: MCEN4000:G2P	DESCRIPTION: IDLE GEAR MOUNTING PIN	A3
DR. MAHZAN BIN JOHAR	SCALE: 1:1	MATERIAL: STEEL, AISI 1015	AS

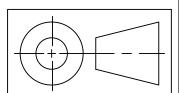








ALL DIMENSIONS IN MM



Ø36.95

Ø39.69

- Ø42.57

Ø45.94

UNLESS OTHERWISE SPECIFIED			
$X \pm 0.5$	ANGLES \pm 0.5 DEG		

 $X.X \pm 0.3$

X.XX ± 0.1

 $X.XXX \pm 0.05$

SURFACE ROUGHNESS Ra1.6µm

SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

DRAWN BY:	Ci.
TANG KANG NING	Cl
DATE:	REMARKS:
20/10/2020	
CHECKED BY:	
CHONG YAO WEN	PART NUMBER:
APPROVED BY:	MCEN4000
DR. MAHZAN BIN JOHAR	SCALE: 1:1

G-G (1:1)

CURTIN UNIVERSITY, M.	ALAYSIA
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REMARKS:

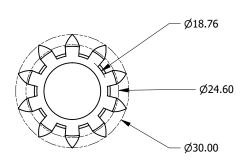
8/20

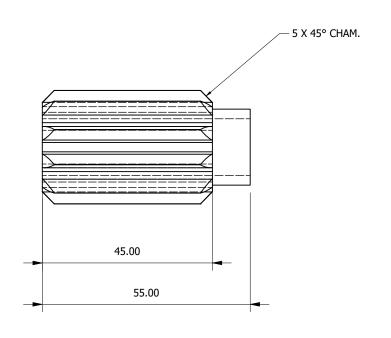
PART NUMBER: DESCRIPTION:

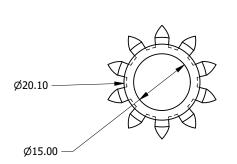
PART NUMBER: DESCRIPTION:
MCEN4000:G3 PINION (ATTACHED AT THE MOTOR SHAFT)

SCALE: 1:1 MATERIAL: STEEL, AISI 1040

A3

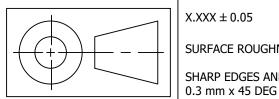






MATERIAL:

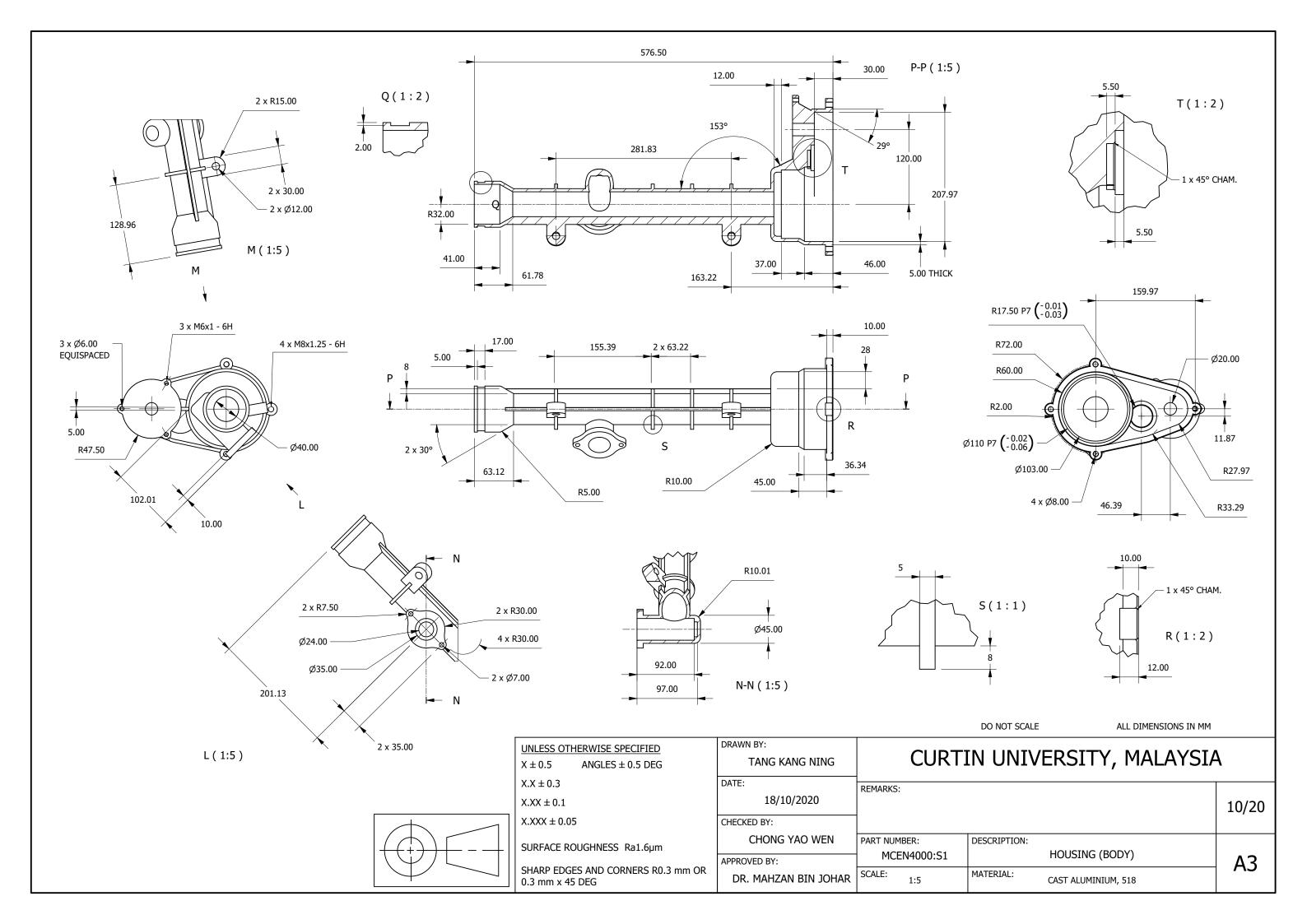
ALL DIMENSIONS IN MM

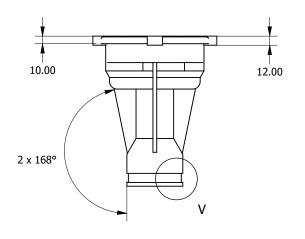


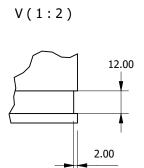
UNLESS OTHERWISE SPECIFIED $X \pm 0.5$ ANGLES ± 0.5 DEG $X.X \pm 0.3$ $X.XX \pm 0.1$ $X.XXX \pm 0.05$ SURFACE ROUGHNESS Ra1.6µm SHARP EDGES AND CORNERS R0.3 mm OR DRAWN BY: TANG KANG NING DATE: REMARKS: 18/10/2020 CHECKED BY: CHONG YAO WEN APPROVED BY: SCALE: 1:1 DR. MAHZAN BIN JOHAR

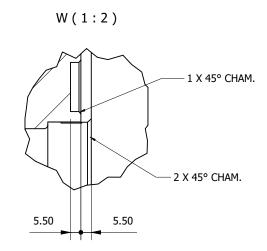
CURTIN UNIVERSITY, MALAYSIA 9/20 PART NUMBER: DESCRIPTION: MCEN4000:GS STEERING PINION **A3**

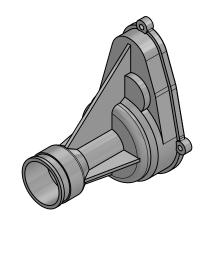
STEEL, AISI 1040

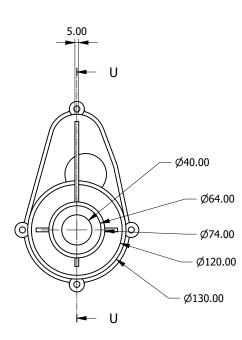


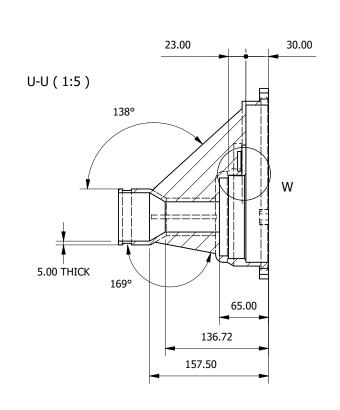


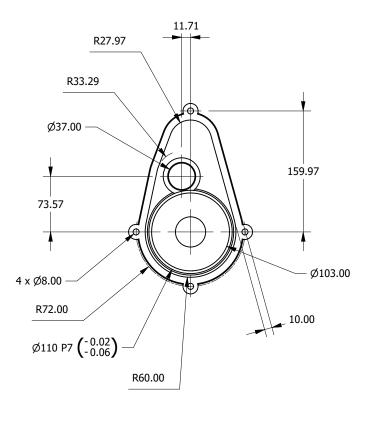








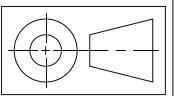




ALL DIMENSIONS IN MM

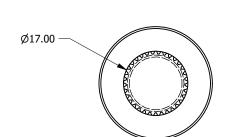
11/20

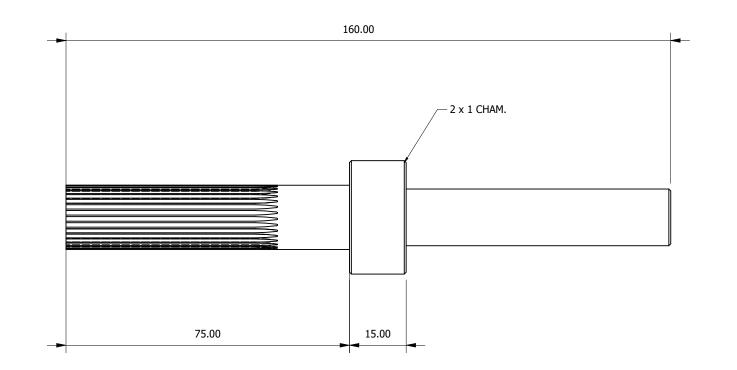
A3

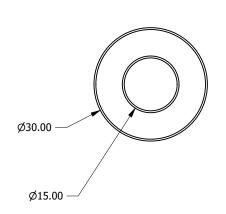


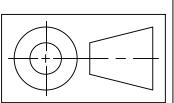
UNLESS OTHERWISE SPECIFIED			
X ± 0.5	ANGLES \pm 0.5 DEG		
$X.X \pm 0.3$			
X.XX ± 0.1			
X.XXX ± 0.05			
SURFACE RO	UGHNESS Ra1.6μm		
SHARP EDGE 0.3 mm x 45	S AND CORNERS R0.3 mm OR DEG		

		DO NOT SCALE	ALL DIMENSIONS IN MM	
DRAWN BY:	CLIDE	-		
TANG KANG NING	CURT	IN NITA	ERSITY, MALAYSI	Д
DATE:	REMARKS:			
18/10/2020				1
CHECKED BY:				
CHONG YAO WEN	PART NUMBER:	DESCRIPTION:		
APPROVED BY:	MCEN4000:S2		HOUSING (CAP)	
DR. MAHZAN BIN JOHAR	SCALE: 1:5	MATERIAL:	CAST ALUMINIUM, 518	



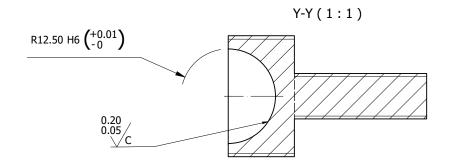


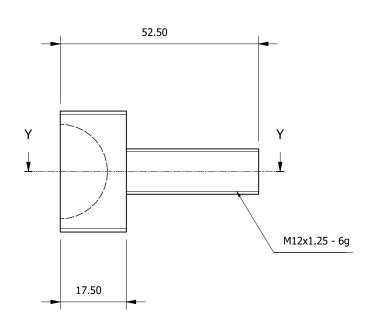


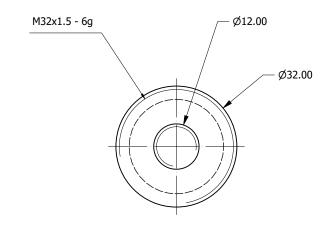


UNLESS OTHERWISE SPECIFIED			
	X ± 0.5	ANGLES \pm 0.5 DEG	
	$X.X \pm 0.3$		
	X.XX ± 0.1		
	X.XXX ± 0.05		
	SURFACE ROI	UGHNESS Ra1.6µm	
	SHARP EDGES 0.3 mm x 45	S AND CORNERS R0.3 mm OR DEG	

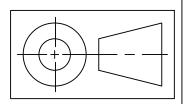
DRAWN BY:	CLIDE		
TANG KANG NING	CURTIN UNIVERSITY, MALAYSIA		
DATE:	REMARKS:		
17/10/2020			12/20
CHECKED BY:			
CHONG YAO WEN	PART NUMBER:	DESCRIPTION:	
APPROVED BY:	MCEN4000:SPL	STEERING INPUT SHAFT	A 3
DR. MAHZAN BIN JOHAR	SCALE: 1:1	MATERIAL: STEEL, AISI 1040	73



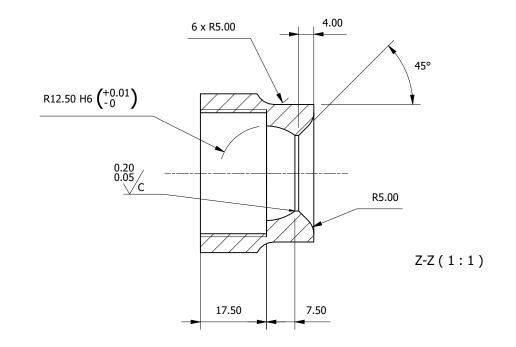


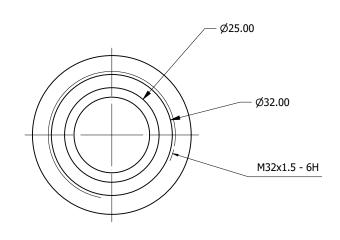


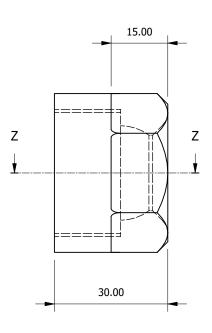
ALL DIMENSIONS IN MM

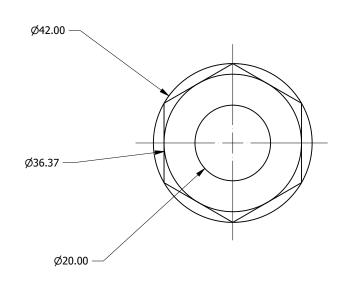


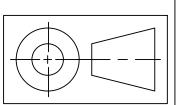
DRAWN BY: TANG KANG NING	CURTIN UNIVERSITY, MALAYSIA		
DATE: 15/10/2020 CHECKED BY:	REMARKS:		13/20
CHONG YAO WEN APPROVED BY:	PART NUMBER: MCEN4000:T1	DESCRIPTION: TIE ROD INNER CUP	A3
DR. MAHZAN BIN JOHAR	SCALE: 1:1	MATERIAL: STEEL, AISI 1040	





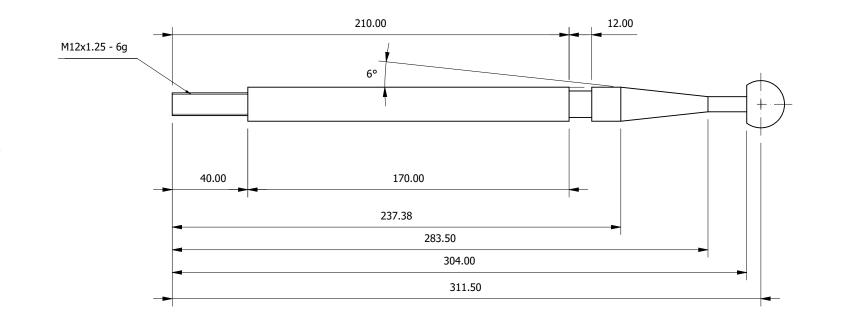


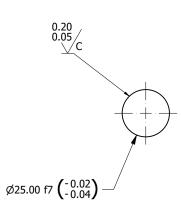




UNLESS OTHERWISE SPECIFIED			
$X \pm 0.5$	ANGLES \pm 0.5 DEG		
$X.X \pm 0.3$			
$X.XX \pm 0.1$			
X.XXX ± 0.0	5		
SURFACE ROUGHNESS Ra1.6µm			
SHARP EDG 0.3 mm x 45	ES AND CORNERS R0.3 mm OR 5 DEG		

		DO NOT SCALL	ALE DIFIENSIONS IN FIIF	
DRAWN BY: TANG KANG NING	CURT	IN UNIVE	RSITY, MALAYSIA	7
DATE: 16/10/2020 CHECKED BY:	REMARKS:			14/2
CHONG YAO WEN APPROVED BY:	PART NUMBER: MCEN4000:T2	DESCRIPTION:	ROD INNER CUP CAP	A 3
DR. MAHZAN BIN JOHAR	SCALE: 1:1	MATERIAL:	STEEL, AISI 1015	

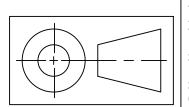




ALL DIMENSIONS IN MM

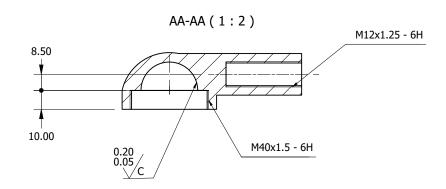
15/20

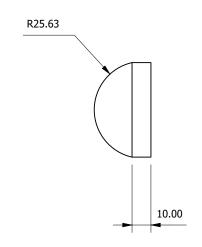
A3

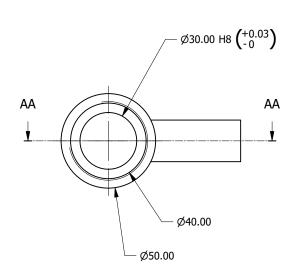


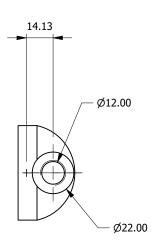
UNLESS OTHERWISE SPECIFIED $X \pm 0.5 \qquad \text{ANGLES} \pm 0.5 \text{ DEG}$ $X.X \pm 0.3 \qquad X.XX \pm 0.1 \qquad X.XXX \pm 0.05$ SURFACE ROUGHNESS Ra1.6 μ m SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

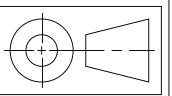
DRAWN BY: CURTIN UNIVERSITY, MALAYSIA TANG KANG NING DATE: REMARKS: 16/10/2020 CHECKED BY: CHONG YAO WEN PART NUMBER: DESCRIPTION: MCEN4000:T3 TIE ROD APPROVED BY: SCALE: 1:2 MATERIAL: DR. MAHZAN BIN JOHAR STEEL, AISI 1015





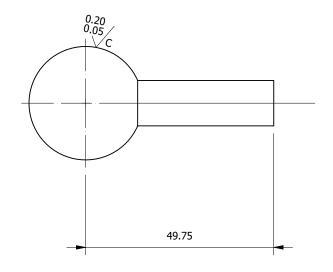


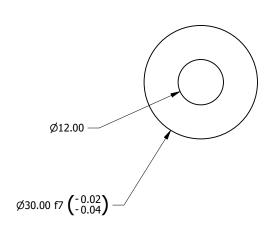




UNLESS OTH	HERWISE SPECIFIED	
$X \pm 0.5$	ANGLES \pm 0.5 DEG	
$X.X \pm 0.3$		
X.XX ± 0.1		
$X.XXX \pm 0.05$		
SURFACE RO	DUGHNESS Ra1.6μm	
SHARP EDGI 0.3 mm x 45	ES AND CORNERS R0.3 mm OR 5 DEG	

		DO NOT SCALE ALE DIMENSIONS IN MIN	
DRAWN BY:	CLIDE		Ī
TANG KANG NING	CURT	IN UNIVERSITY, MALAYSIA	4
DATE:	REMARKS:		
18/10/2020	-		16/20
CHECKED BY:			-
CHONG YAO WEN	PART NUMBER:	DESCRIPTION:	
APPROVED BY:	MCEN4000:T4	TIE ROD OUTER CUP	A3
DR. MAHZAN BIN JOHAR	SCALE: 1:2	MATERIAL: STEEL, AISI 1040	

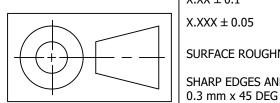




ALL DIMENSIONS IN MM

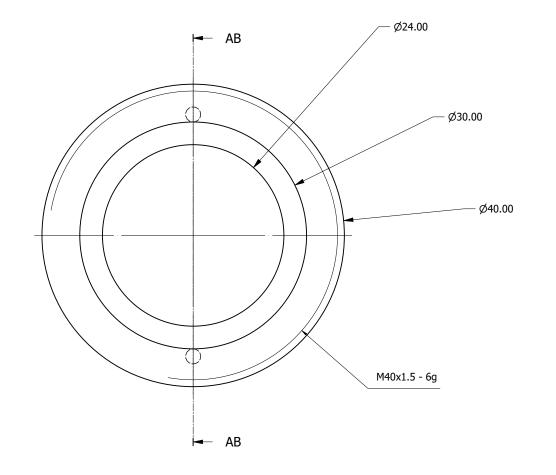
17/20

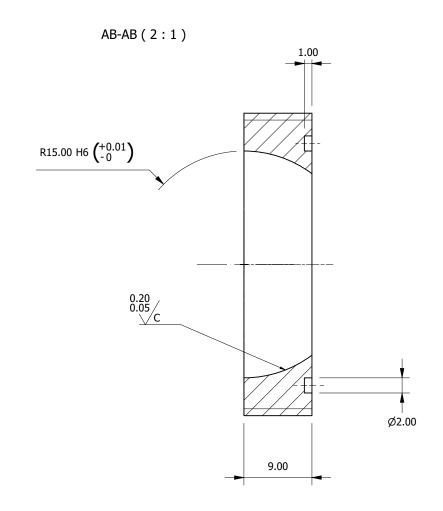
A3



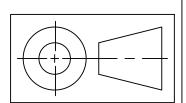
UNLESS OTHERWISE SPECIFIED $\begin{array}{ccc} \text{X} \pm 0.5 & \text{ANGLES} \pm 0.5 \text{ DEG} \\ \text{X.X} \pm 0.3 & \\ \text{X.XX} \pm 0.1 & \\ \text{X.XXX} \pm 0.05 & \\ \text{SURFACE ROUGHNESS Ra1.6} \mu\text{m} \\ \text{SHARP EDGES AND CORNERS R0.3 mm OR} \\ \end{array}$

DRAWN BY: CURTIN UNIVERSITY, MALAYSIA TANG KANG NING DATE: REMARKS: 18/10/2020 CHECKED BY: CHONG YAO WEN PART NUMBER: DESCRIPTION: MCEN4000:T5 TIE ROD OUTER BALL JOINT APPROVED BY: SCALE: 1:1 MATERIAL: DR. MAHZAN BIN JOHAR STEEL, AISI 1015

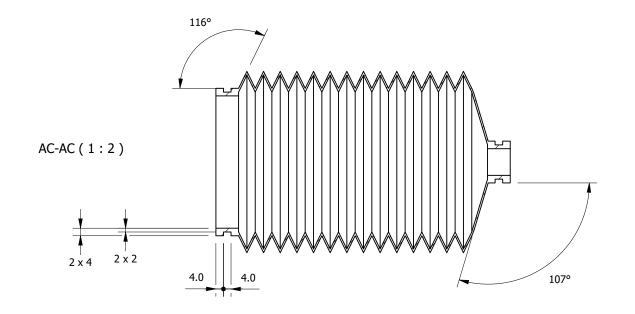


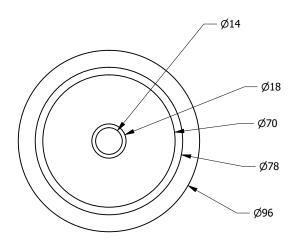


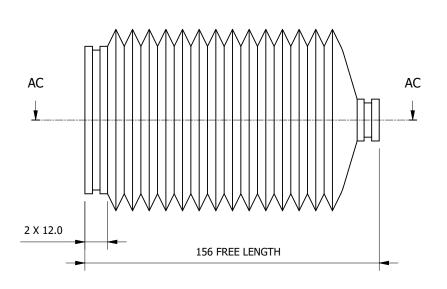
ALL DIMENSIONS IN MM

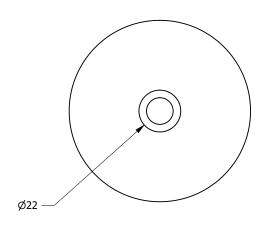


DRAWN BY: TANG KANG NING	CURTIN UNIVERSITY, MALAYS		
DATE: 18/10/2020 CHECKED BY:	REMARKS:		18/20
CHONG YAO WEN APPROVED BY:	PART NUMBER: MCEN4000:T6	DESCRIPTION: TIE ROD OUTER CUP CAP	A3
DR. MAHZAN BIN JOHAR	SCALE: 2:1	MATERIAL: STEEL, AISI 1040	73

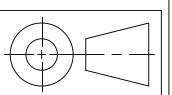








ALL DIMENSIONS IN MM



UNLESS OTHERWISE SPECIFIED ANGLES \pm 0.5 DEG

 $X \pm 0.5$

 $X.X \pm 0.3$

 $X.XX \pm 0.1$

 $X.XXX \pm 0.05$

SURFACE ROUGHNESS Ra1.6µm

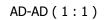
SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

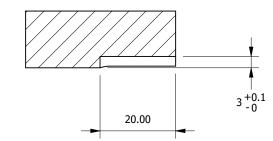
DRAWN BY:	
TANG KANG NING	
DATE:	RFM
22/10/2020	I (L)
CHECKED BY:	
CHONG YAO WEN	PAR
APPROVED BY:	
dr. Mahzan bin Johar	SCAI

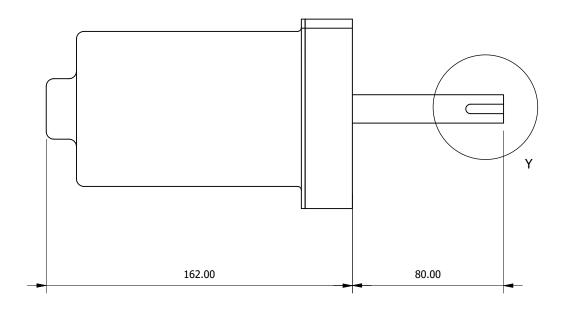
CURTIN UNIVERSITY, MALAYSIA

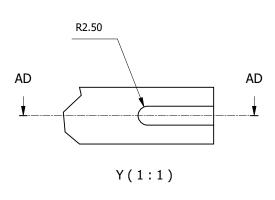
MARKS: L9/20

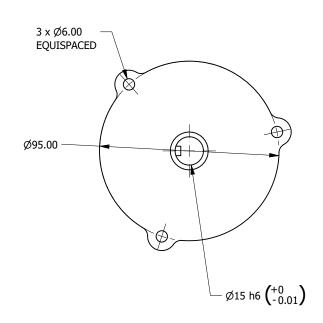
			19/20
l	PART NUMBER:	DESCRIPTION:	
	MCEN4000:T7	BALL JOINT BELLOW	Δ3
HAR	SCALE: 1:2	MATERIAL: RUBBER, SILICONE	





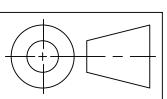






ALL DIMENSIONS IN MM

A3



JNLESS OTHERWISE SPECIFIED					
(± 0.5	ANGLES ± 0.5 DEG				
4.00 ± 0.3					
$C.XX \pm 0.1$					

 $X.XXX \pm 0.05$

SURFACE ROUGHNESS Ra1.6µm

SHARP EDGES AND CORNERS R0.3 mm OR 0.3 mm x 45 DEG

DRAWN BY:	
TANG KANG NING	
DATE:	RFMARKS:
18/10/2020	
CHECKED BY:	
CHONG YAO WEN	PART NUMBI
APPROVED BY:	MCEN
DR. MAHZAN BIN JOHAR	SCALE:

CURTIN UNIVERSITY, MALAYSIA		
S:		20/20

PART NUMBER:	DESCRIPTION:	
MCEN4000:M0	ELECTRIC SERVO MOTOR	
SCALE: 1:2	MATERIAL:	