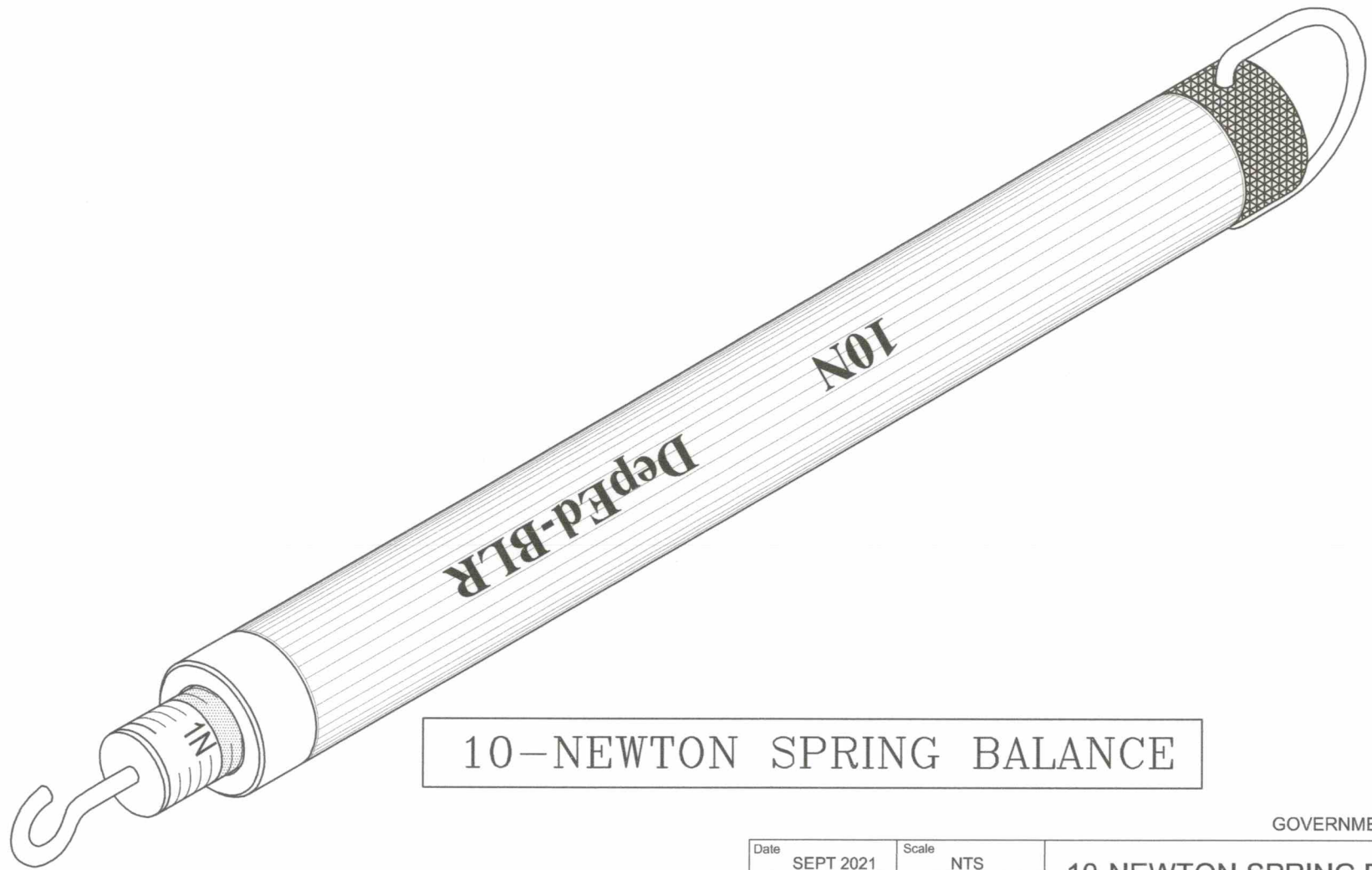


SCIKIT-MECHANICS

1 2 3 4 5 6

A
B
C
D



10-NEWTON SPRING BALANCE

GOVERNMENT PROPERTY

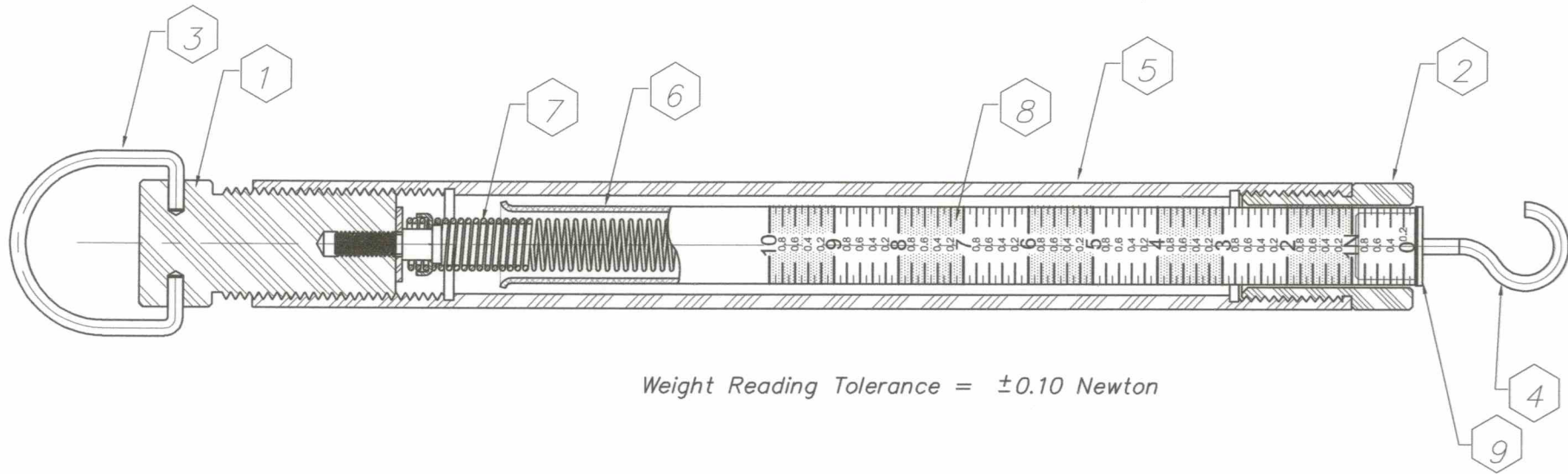
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by				Item Name	ASSEMBLY DRAWING
Drawn by	B.C. Lisondra	Checked by	J.N. Arioja	Material	
Designed by		Recommended by	A.B. Ybañez	File name	10nwtSprgBal
Approved by	R. C. La Rosa			DepED-BLR	

TOLERANCES FOR LENGTH GAUGING						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50			

TOLERANCES FOR RADIUS & CHAMFERS					SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30				
Smooth		± 0.20	± 0.50	± 1.00	± 2.00			
Medium								

1 2 3 4 5 6

SCIKIT-MECHANICS



Weight Reading Tolerance = ± 0.10 Newton

ITEM	NAME	QTY
1	TOP COVER ASSEMBLY	1
2	STOPPER	1
3	TUBE HANGER	1
4	HOOK	1
5	OUTER TUBE	1
6	INNER TUBE	1
7	EXTENSION SPRING	1
8	STICKER	1
9	SPRING AND HOOK HOLDER	1

10 NEWTON SPRING BALANCE
ASSEMBLY DRAWING

GOVERNMENT PROPERTY

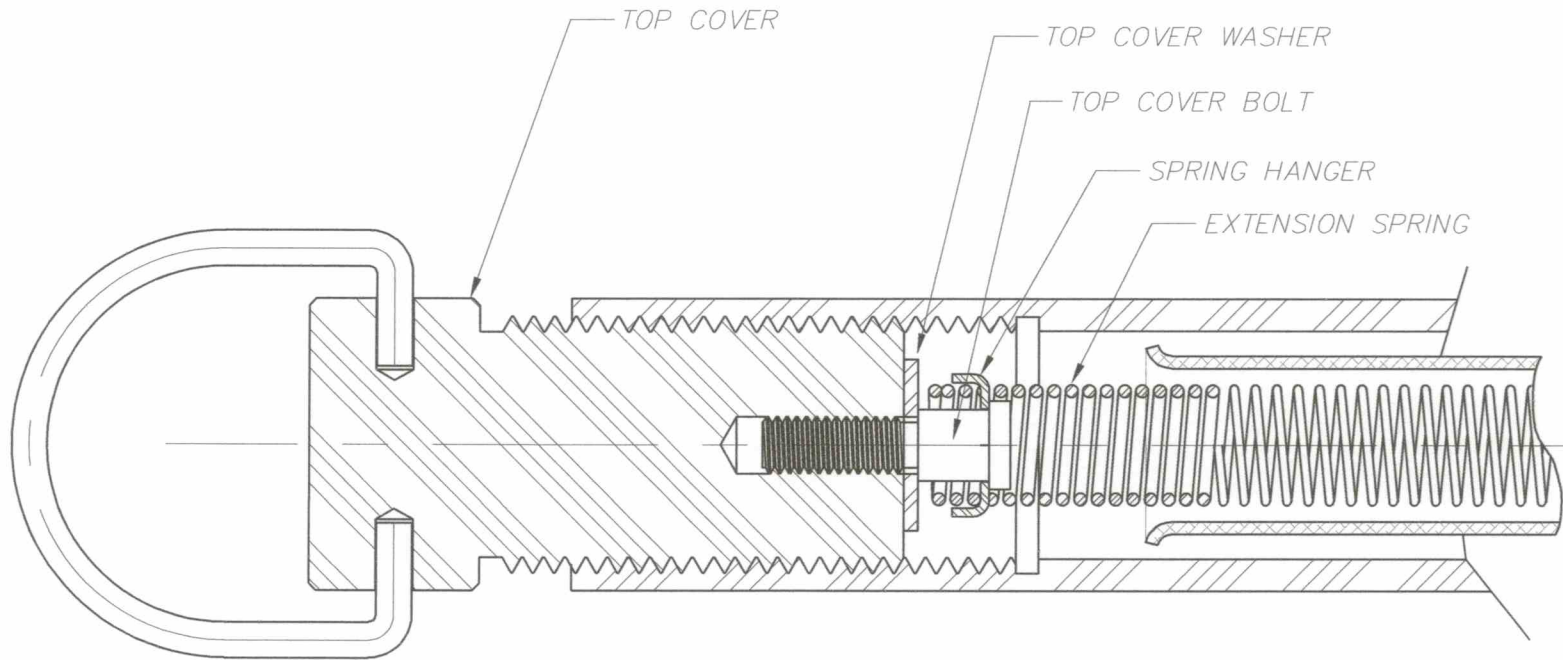
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE
Conceptualized by				
Drawn by	B.C. Lisondra			Item Name
Designed by	Q.C. Checked by			ASSEMBLY DRAWING
				Sheet
				Material
				File name
				10nwtSprqBa
Recommended by				DepED-BLR
A.B. Ybañez				
Approved by				
R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth		± 0.20	± 0.50	± 1.00	± 2.00
Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

SCIKIT-MECHANICS



GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra	Item Name	SPRING INSTALLATION SETUP		Sheet
Designed by		Q.C. Checked by	J.N. Aribja	Material	File name 10nwtSprgBal
Recommended by	A.B. Ybañez		DepED-BLR		
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING

Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS

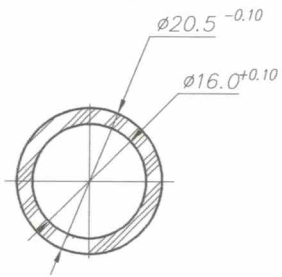
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

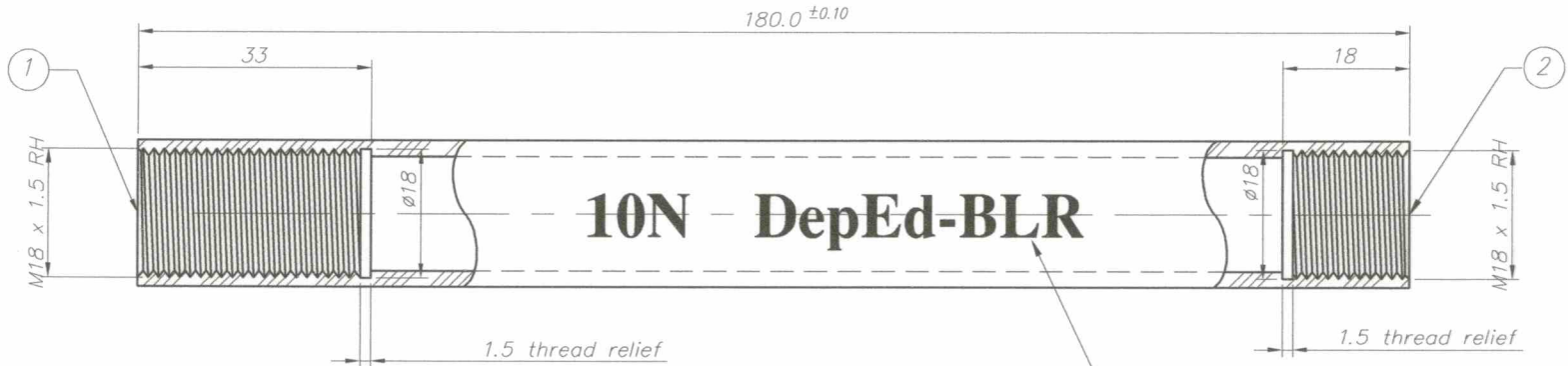
1 2 3 4 5 6

A B C D

SCIKIT-MECHANICS



CROSS SECTION



SIDE SECTIONAL VIEW

Printed DepEd-BLR Marker
Font Style : Times New Romans (Bold)
Size : 6mm

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μm

GOVERNMENT PROPERTY

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

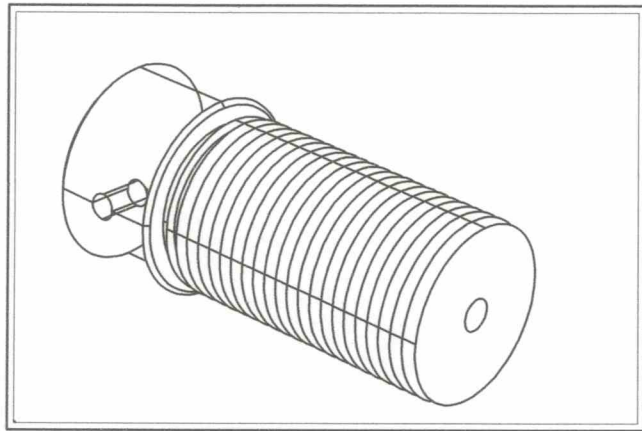
TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth		± 0.20	± 0.50	± 1.00	± 2.00
Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

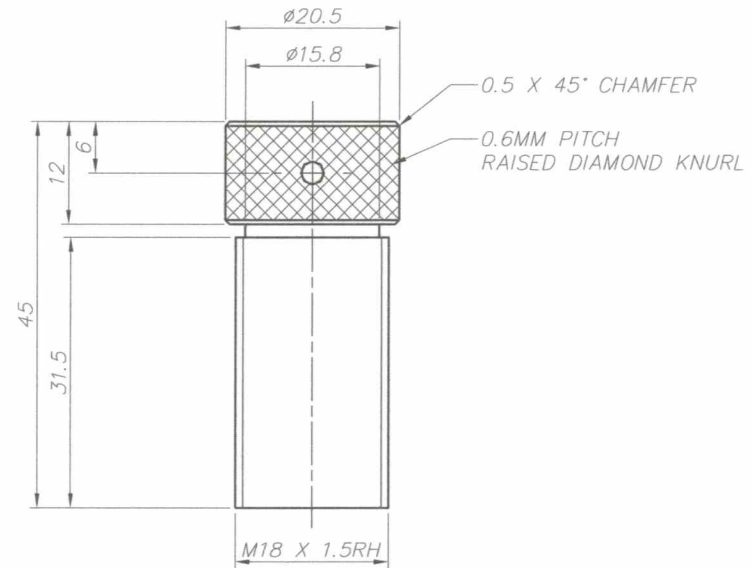
Date	SEPT 2021	Scale	NTS
Conceptualized by			
Drawn by	B.C. Lisondra		
Designed by	Q.C. Checked by	J.N. Ariola	
Recommended by	A.B. Ybañez		
Approved by	R. C. La Rosa		

10-NEWTON SPRING BALANCE	
Item Name	OUTER TUBE
Material	$\phi 20\text{MM}$ Series Blue PVC Pipe
File name	10nwtSprgBa
DepED-BLR	

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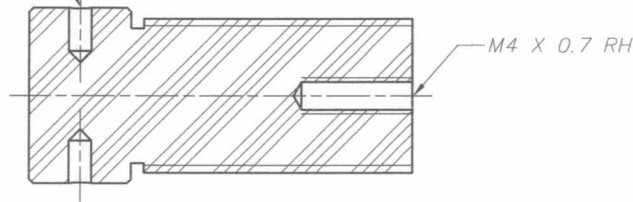


PERSPECTIVE

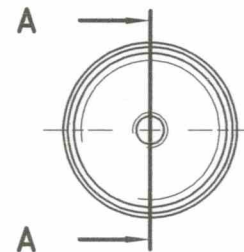


TOP VIEW

Ø2.7 X 5 DEEP HOLE



SECTION "A-A"



FRONT VIEW

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20µm

GOVERNMENT PROPERTY

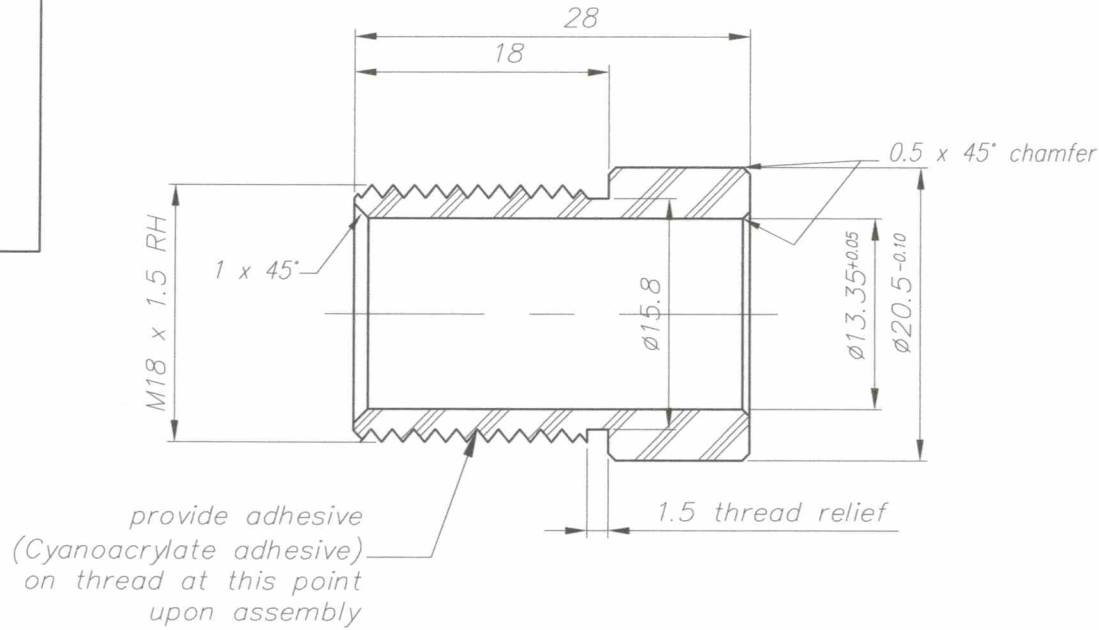
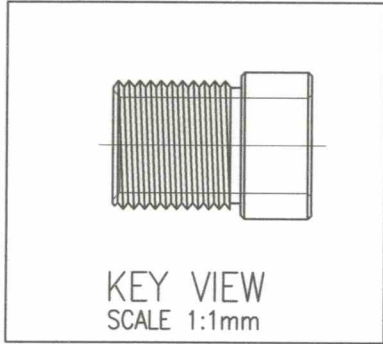
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	TOP COVER (ZERO ADJUSTMENT)
Designed by	B.C. Lisondra			Material	ABS THERMOPLASTIC (WHITE)
Checked by	J.N. Ariola			File name	10N stopper
Recommended by	A.B. Ybañez			DepED-BLR	
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM REVISION DATE BY

SCIKIT-MECHANICS



2 STOPPER

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μ m

GOVERNMENT PROPERTY

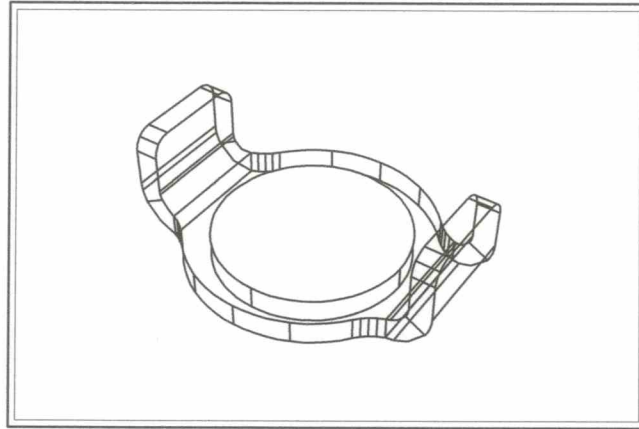
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisonda			Item Name	STOPPER
Designed by	D.S. Checked by			Material	Polycarbonate Thermoplastic Color: Transparent, Clear
	J.N. Ariza			File name	10nwtSprgBal
Recommended by	A.B. Ybañez			DepED-BLR	
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

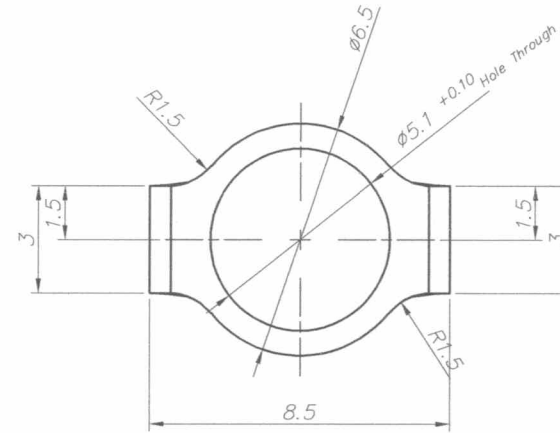
TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

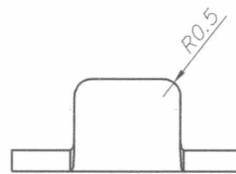
SCIKIT-MECHANICS



PERSPECTIVE



TOP VIEW



SIDE VIEW



FRONT VIEW

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μm

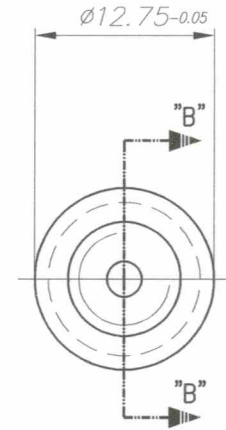
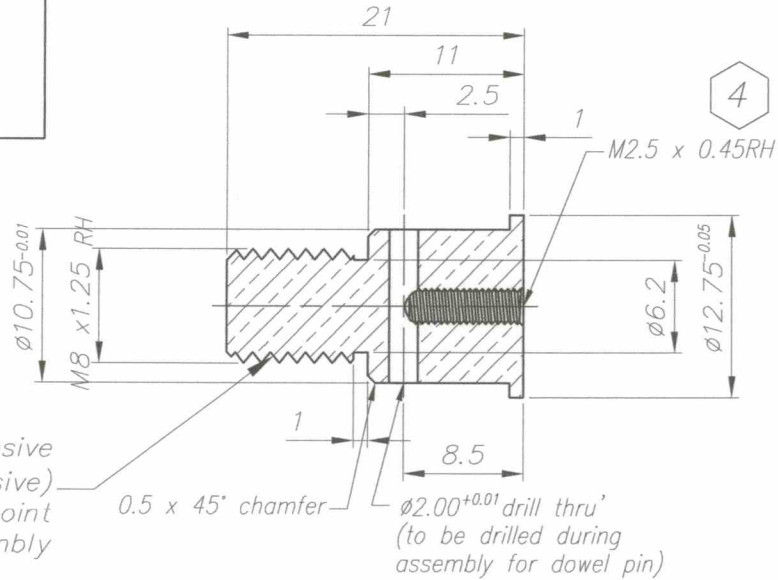
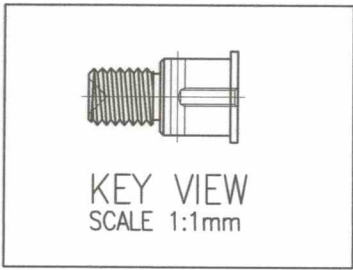
GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	Sheet
Designed by	J.N. Arida			Material	File name
Recommended by	A.B. Ybañez			0.6mm thk. (Gage 24)	10N stopper
Approved by	R. C. La Rosa			DepED-BLR	

TOLERANCES FOR LENGTH GAUGING						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50			

TOLERANCES FOR RADIUS & CHAMFERS					SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30				
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00			

SCIKIT-MECHANICS



provide adhesive
(Cyanoacrylate adhesive)
on thread at this point
upon assembly

0.5 x 45° chamfer
Ø2.00^{±0.01} drill thru'
(to be drilled during
assembly for dowel pin)

- * Dimensions are in millimeters except otherwise specified.
- * File all sharp edges.
- * Surface Roughness @ 1.00 to 1.20µm

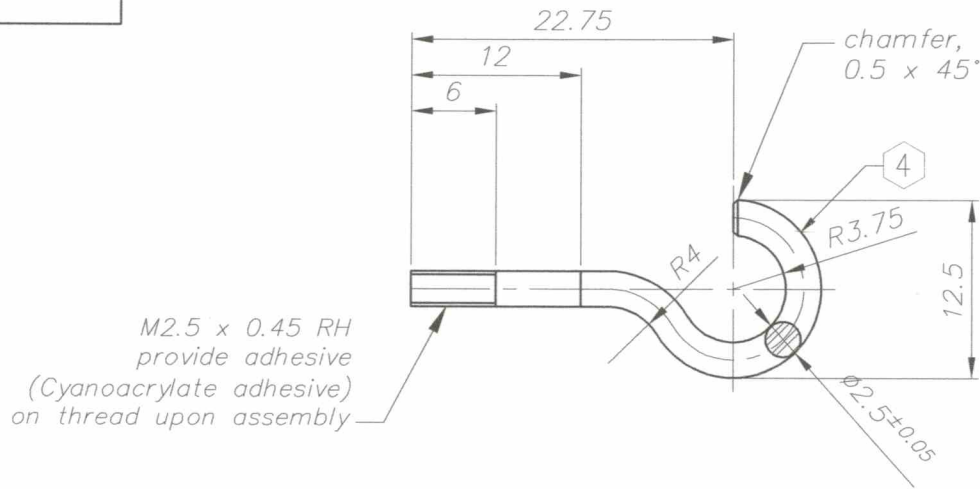
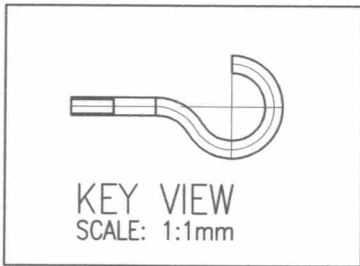
9 SPRING AND HOOK ADAPTOR

GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	SPRING AND HOOK ADAPTOR
Designed by	J.N. Aridja			Material	ALUMINUM BRONZE, SAE 701B
Recommended by	A.B. Ybañez			File name	10nwtSprgBal
Approved by	R. C. La Rosa			<h1>DepED-BLR</h1>	

TOLERANCES FOR LENGTH GAUGING						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Medium		± 0.10	± 0.10	± 0.20	± 0.30				
TOLERANCES FOR RADIUS & CHAMFERS						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00				

SCIKIT-MECHANICS



- * Dimensions are in millimeters except otherwise specified.
- * File all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μ m

GOVERNMENT PROPERTY

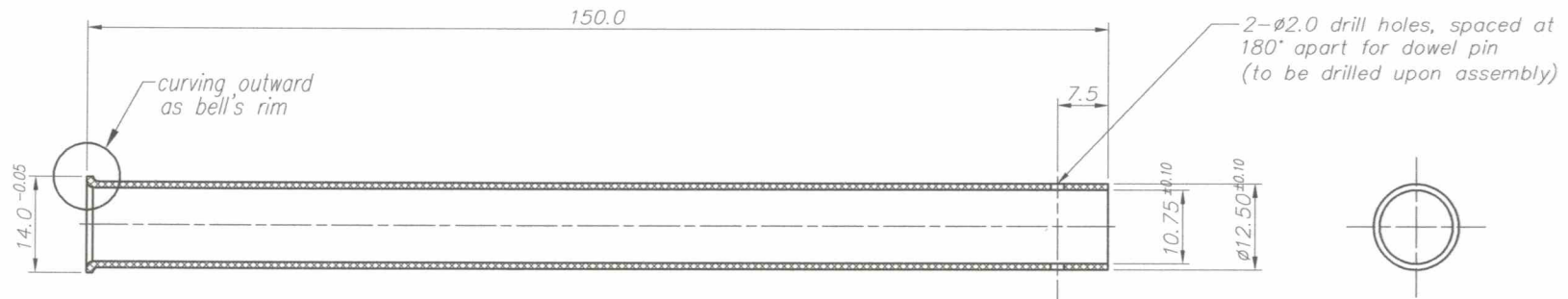
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by				Item Name	HOOK
Drawn by	B.C. Lisondra			Material	STAINLESS STEEL
Designed by				Q.C. Checked by	J.N. Arioja
Recommended by	A.B. Ybañez			File name	10nwtSprgBa
Approved by	R. C. La Rosa			DepED-BLR	

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

SCIKIT-MECHANICS



- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 2.00 μm

GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE		
Conceptualized by						
Drawn by	B.C. Lisondra			Item Name	INNER TUBE	
Designed by	Q.C. Checked by			Material	Ø12.5MM ALUMINUM TUBE	
				J.N. Vrijo	File name	10nwtSprgBal
Recommended by				DepED-BLR		
A.B. Ybañez						
Approved by						
R. C. La Rosa						

TOLERANCES FOR LENGTH GAUGING

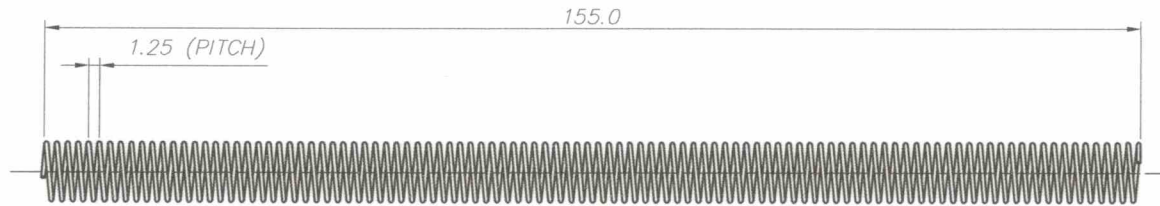
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS

Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

SCIKIT-MECHANICS



EXTENSION SPRING

OPEN ENDS, NOT GROUND, RIGHT-HAND HELIX

- OUTSIDE DIAMETER = $8.5^{\pm 0.10}$ mm
- WIRE DIAMETER = $0.89^{\pm 0.10}$ mm
- PITCH = 1.25 mm
- LENGTH = 155.00 mm
- MATERIAL: $\phi 0.89^{\pm 0.10}$ mm STAINLESS STEEL SPRING WIRE
AISI 302 (0.08C, 0.6Si, 1.2 Mn, 18Cr, 9Ni)

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μ m

GOVERNMENT PROPERTY

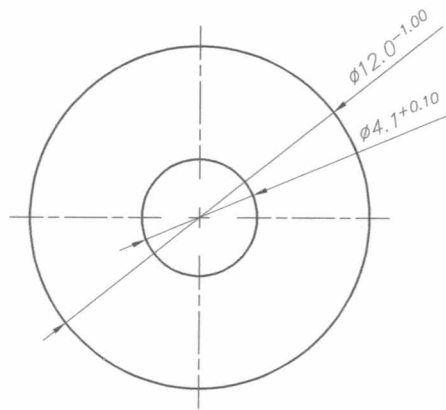
Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE
Conceptualized by				
Drawn by	B.C. Lisondra			Item Name
Designed by				EXTENSION SPRING
Q.C. Checked by	J.N. Wioja			Sheet
Recommended by	A.B. Ybañez			Material
Approved by	R. C. La Rosa			(AS SPECIFIED ABOVE)
				File name
				10nwtnSprgBa
				DepED-BLR

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

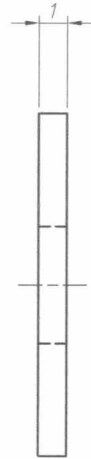
TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth		± 0.20	± 0.50	± 1.00	± 2.00
Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

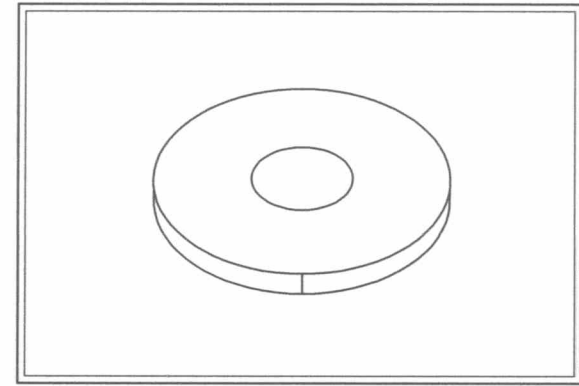
SCIKIT-MECHANICS



FRONT VIEW



SIDE VIEW



PERSPECTIVE

- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.20 to 1.40 μm

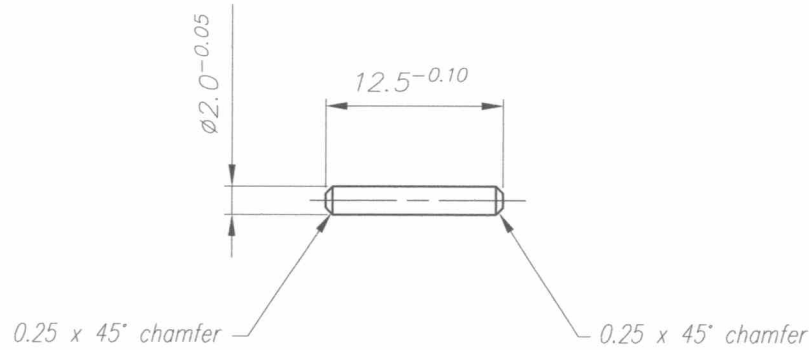
GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	Sheet
Designed by	J.N. Arrija			TOP COVER WASHER	
Q.C. Checked by				Material	File name
Recommended by	A.B. Ybañez			1mm thk Stainless Steel, AISI 304/304L	10N_topcover
Approved by	R. C. La Rosa			DepED-BLR	

TOLERANCES FOR LENGTH GAUGING							SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400				
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50				

TOLERANCES FOR RADIUS & CHAMFERS						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Smooth		± 0.20	± 0.50	± 1.00	± 2.00				
Medium		± 0.20	± 0.50	± 1.00	± 2.00				

SCIKIT-MECHANICS



- * Dimensions are in millimeters except otherwise specified.
- * File all sharp edges.

GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	DOWEL PIN
Designed by	Q.C. Checked by			Material	STAINLESS STEEL
	J.N. Arija			File name	10nwtSprgBa
Recommended by	A.B. Ybañez			DepED-BLR	
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING

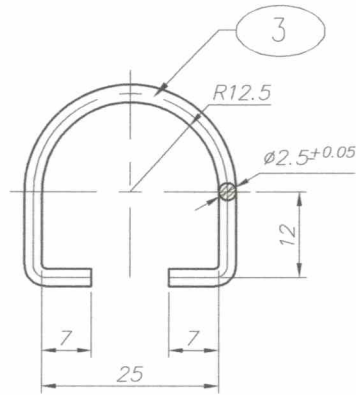
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS

Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth		± 0.20	± 0.50	± 1.00	± 2.00
Medium		± 0.20	± 0.50	± 1.00	± 2.00

SYM	REVISION	DATE	BY

SCIKIT-MECHANICS



- * Dimensions are in millimeters except otherwise specified.
- * Smoothen all sharp edges.
- * Surface Roughness @ 1.00 to 1.20 μ m

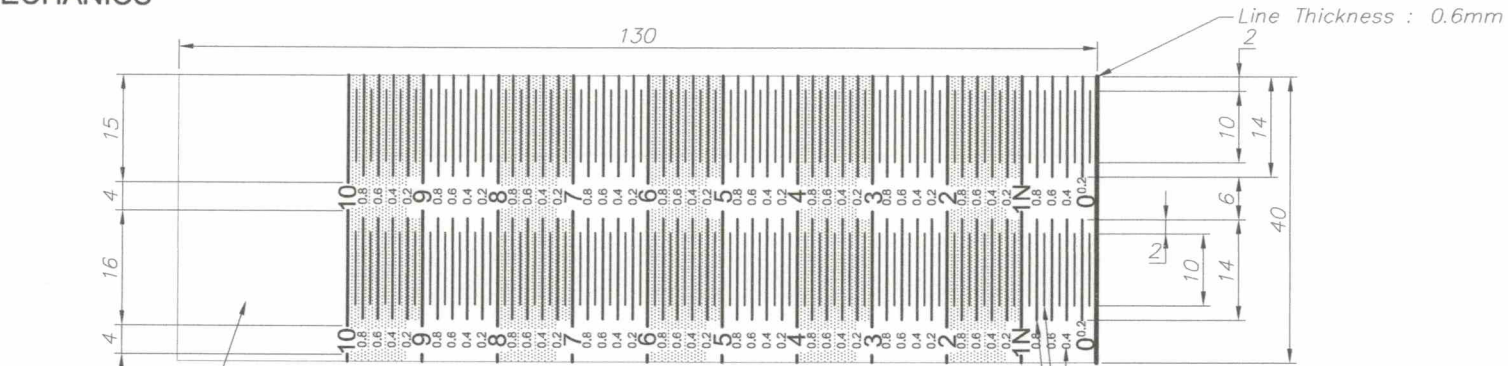
GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra		Item Name	TUBE HANGER	
Designed by	Q.S. Checked by		Material	STAINLESS STEEL	
	J.N. Aripja		File name	10nwtSprgBa	
Recommended by	A.B. Ybañez		DepED-BLR		
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING							SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400				
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50				

TOLERANCES FOR RADIUS & CHAMFERS					SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30				
Smooth		± 0.20	± 0.50	± 1.00				
Medium		± 0.20	± 0.50	± 1.00				

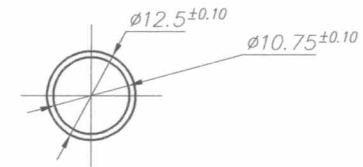
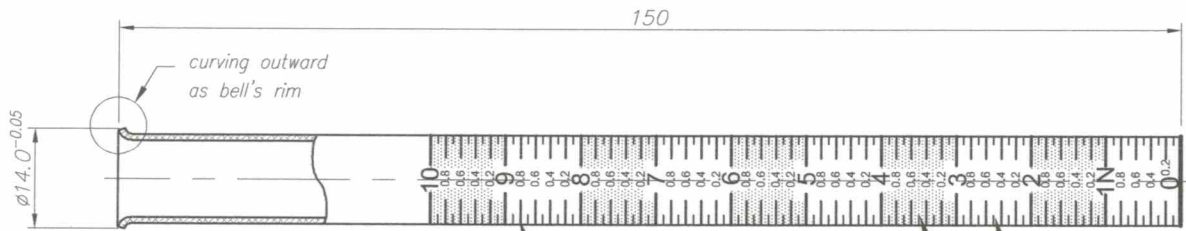
SCIKIT-MECHANICS



white paper sticker
(High Gloss)

PRINTED CALIBRATION ON
WHITE PAPER STICKER

Line Thickness : 0.6mm
Number Height : 1.2mm
Line Thickness : 0.2mm
Line Thickness : 0.3mm
Line Thickness : 0.4mm



- NOTES: 1. Graduation shall be based on actual calibration
2. Graduation line shall be color: BLACK
3. SCALE : LARGE NUMBERS
Type : Arial
Color : Black
Height : 2.5mm

ROLLED-OUT VIEW

rolled white paper sticker with printed calibration of 1 to 10N color black (see Notes)
white color strip
deep yellow color strip

- * Dimensions are in millimeters except otherwise specified.
* Smoothen all sharp edges.
* Surface Roughness @ 0.70 to 0.80 μm

GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by					
Drawn by	B.C. Lisondra			Item Name	CALIBRATION STICKER
Designed by				Material	High Gloss White Paper Sticker
				Q.C. Checked by	J.N. Arida
				Recommended by	A.B. Ybañez
				Approved by	R. C. La Rosa
				Sheet	
				File name	10nwtSprqBa

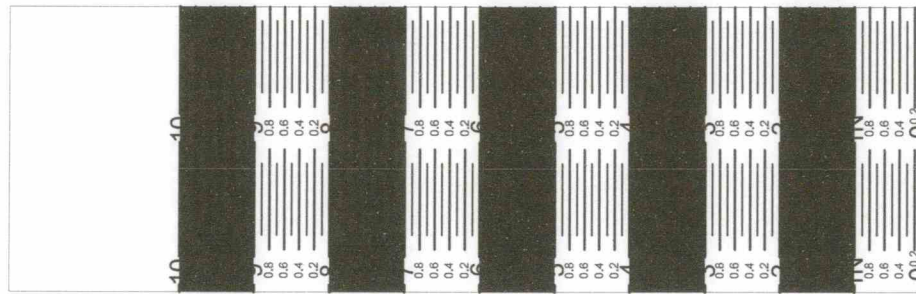
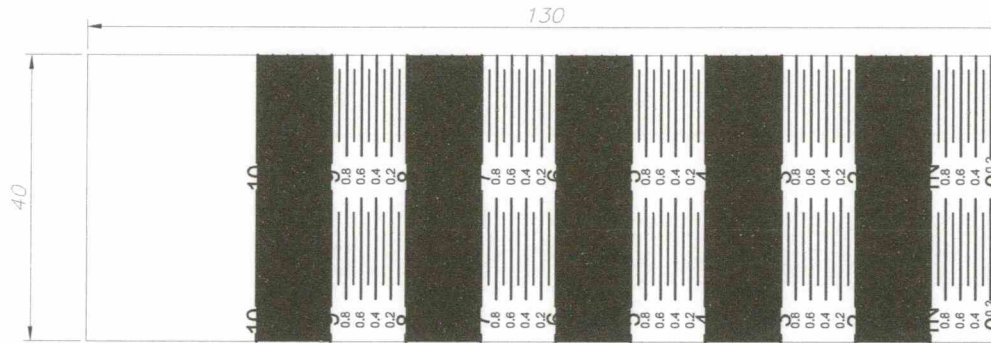
DepED-BLR

TOLERANCES FOR LENGTH GAUGING						
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120	Over 120 to 400
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50

TOLERANCES FOR RADIUS & CHAMFERS					
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120
Smooth		± 0.20	± 0.50	± 1.00	± 2.00
Medium					

SYM	REVISION	DATE	BY

SCIKIT-MECHANICS



PRINTED CALIBRATION ON
WHITE PAPER STICKER

GOVERNMENT PROPERTY

Date	SEPT 2021	Scale	NTS	10-NEWTON SPRING BALANCE	
Conceptualized by				Item Name	SHEET
Drawn by	B.C. Lisondra			CALIBRATION STICKER	
Designed by	Q.C. Checked by			Material	File name
	J.N. Arrija			High Gloss White Paper Sticker	10nwtNSprgBal
Recommended by	A.B. Ybañez			DepED-BLR	
Approved by	R. C. La Rosa				

TOLERANCES FOR LENGTH GAUGING						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Medium		± 0.10	± 0.10	± 0.20	± 0.30	± 0.50			

TOLERANCES FOR RADIUS & CHAMFERS						SYM	REVISION	DATE	BY
Grade of Accuracy	Nominal Size	0.5 to 3	Over 3 to 6	Over 6 to 30	Over 30 to 120				
Smooth Medium		± 0.20	± 0.50	± 1.00	± 2.00				