

# REPUBLIC

HIGH SPEED, HIGH PRECISION  
14" - 16" - 17" - 20"

## FAMILY OF GEARED HEAD AND EVS DRIVE LATHES



 **Republic - LAGUN**  
*Machine Tool Co.*



## REPUBLIC RL-SERIES 14" & 16" w/ GEARED HEADSTOCK

- ▶ 16 Speed Geared Headstock
- ▶ 3-Bearing Spindle, 2<sup>1</sup>/<sub>16</sub> Bore
- ▶ Hardened and Ground Bedways
- ▶ Hardened and Reishauer Ground Headstock Gears
- ▶ One-Piece Cast Meehanite Base
- ▶ Front Chip Removal
- ▶ Low Voltage to Push Buttons



\*Shown with some options

	RL-1440/RL-1460-G	RL-1640/1660-G
Swing Over Bed	14 <sup>3</sup> / <sub>16</sub> " (360mm)	16 <sup>3</sup> / <sub>16</sub> " (410mm)
Swing Over Cross Slide	8 <sup>3</sup> / <sub>16</sub> " (214mm)	10 <sup>3</sup> / <sub>16</sub> " (264mm)
Distance Between Center	40" (1,000mm)   60" (1,500mm)	40" (1,000mm)   60" (1,500mm)
Spindle Type	D1-6 Camlock	D1-6 Camlock
Spindle Bore	2 <sup>1</sup> / <sub>16</sub> " (52.5mm)	2 <sup>1</sup> / <sub>16</sub> " (52.5mm)
Spindle Speed, Standard	(16) 40~2,000 RPM	(16) 40~2,000 RPM
Main Motor	2-Speed 5HP (3.73kW)	2-Speed 7.5HP (5.60kW)

### STANDARD ACCESSORIES

- Square Tool Post on T-Slotted Compound
- Thread Chasing Dial
- Full Length Rear Splash Guard
- Drive Plate
- Inch/Metric Dual Dials
- Center Sleeve
- 2 Dead Centers, No. 4 MT
- Hardened & Ground Bed Ways with Gap
- Pressurized One Shot Lube for Cross Slide & Carriage

#### 1 GEARED HEADSTOCK

Housing is vibration-absorbent & deflection-free.  
Gears are hardened & MAAG or REISHAUER ground

#### 2 ELECTRONIC VARIABLE SPEED (E.V.S) HEADSTOCK

- Forced lubrication to all running, points
- Hardened & grounds gears and shafts.

- Spindle is supported by three point precision bearings (2 taper roller & 1 ball bearing).

#### 3 ELECTRICS

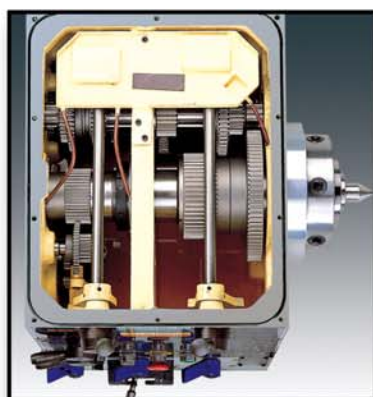
Special electrics on request, including CE, Canadian, NFPA-79, JIC. The electrics cabinet is sealed protective against entrance of water, dirt, and other contaminants.

#### 4 APRON

R/H or L/H wheel can be available on request.  
Integrated automatic control for longitudinal & cross feeds, forward & reverse feeds.

#### 5 HEAVY DUTY SPINDLE

Machined from forged alloy steel, hardened, ground & dynamically



1 Standard Geared Headstock



2 EVS Headstock



3 "A" Series Electrical Control Enclosure



# REPUBLIC RL-SERIES 14" & 16" w/ EVS DRIVE & 3-VEE BEDWAYS

- ▶ Electronic Variable Speed (EVS) Drive, In Two Ranges
- ▶ Unique Bed with 3 Vee Ways to Maintain Perfect Ailment of Carriage on Bed
- ▶ 3-Bearing Spindle, 2<sup>1</sup>/<sub>16</sub> Bore
- ▶ Hardened and Ground Bedways
- ▶ Hardened and Reishauer Ground Headstock Gears
- ▶ One-Piece Cast Meehanite Base
- ▶ Front Chip Removal
- ▶ Low Voltage to Push Buttons
- ▶ "A" or "T" Version (see item 9)



\*Shown with some options

	RL-14-TW-EVS	RL-16-TW-EVS
Swing Over Bed	14 <sup>3</sup> / <sub>16</sub> " (360mm)	16 <sup>3</sup> / <sub>16</sub> " (410mm)
Swing Over Cross Slide	8 <sup>3</sup> / <sub>16</sub> " (214mm)	10 <sup>3</sup> / <sub>16</sub> " (264mm)
Distance Between Center	40" (1,000mm)   60" (1,500mm)	40" (1,000mm)   60" (1,500mm)
Spindle Type	D1-6 Camlock	D1-6 Camlock
Spindle Bore	2 <sup>1</sup> / <sub>16</sub> " (52.5mm)	2 <sup>1</sup> / <sub>16</sub> " (52.5mm)
Spindle Speed, Standard	(Infinitely Variable) Electronic Variable Speed (EVS) 20-2,500 RPM	
Main Motor	5HP (3.73kW)	7.5HP (5.60kW)

## STANDARD ACCESSORIES

- Square Tool Post on T-Slotted Compound
- Thread Chasing Dial
- Full Length Rear Splash Guard
- Drive Plate
- 3-Vee Bed Design
- Center Sleeve
- 2 Dead Centers, No. 5 MT
- Hardened & Ground Bed Ways with Gap
- Pressurized One Shot Lube for Cross Slide & Carriage

balanced. Three point support by high grade precision, taper roller & ball bearings.

### CARRIAGE & SLIDE

- Anti-Float design, backlash eliminator fitted in cross slide nut.
- Safety clutch at feed shaft.
- One shot lubrication in carriage & top slide.
- Dual inch/metric dials.

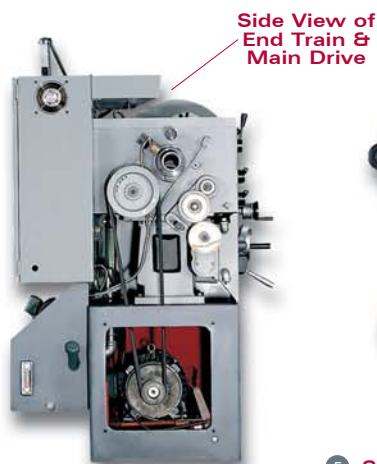
### 7 HEADSTOCK & GEAR BOX

- Electronic 1/4 HP pump for headstock pressure lubrication.
- Prolong life expectancy of gears & spindle.
- Combination of forced lubrication & oil bath system in headstock.
- Nylon safety gears in end train.
- Dynamic balanced spindle.

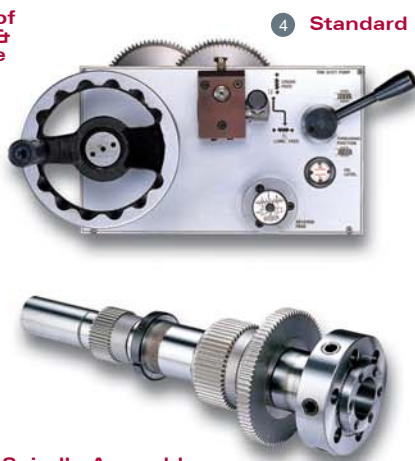
- Universal gearbox allowing a wide range of inch, metric, MP, D.P. threads without changing endtrain gears.

### 8 BED

One Piece cast base (no pedestals). Meehanite casting, stress relieved. Induction hardened & precision ground bed ways. Precision hand scraped removable gap block.



Side View of End Train & Main Drive



4 Standard Apron

5 Spindle Assembly



6 Carriage & Slide

## REPUBLIC ML-SERIES 17" & 20" w/ GEARED HEAD or OPT. EVS DRIVE

- ▶ 12 Speed Geared Head or Electronic Variable Speed (EVS)
- ▶ Spindle Bore has 3" Bar Capacity
- ▶ Hardened and Ground Bedways
- ▶ Hardened and Reishauer Ground Headstock Gears
- ▶ One-Piece Cast Meehanite Base
- ▶ Front Chip Removal
- ▶ Low Voltage to Push Buttons



\*Shown with some options

	RL-1740/RL-1760-G	RL-2040/2060-G	RL-1740/RL-1760-EVS-T	RL-2040/2060-EVS-T
Swing Over Bed	17" (435mm)	20" (508mm)	17" (435mm)	20" (508mm)
Swing Over Cross Slide	10.9" (227mm)	13.89" (353mm)	10.9" (227mm)	13.89" (353mm)
Distance Between Center	40" (1,000mm)   60" (1,500mm)	40" (1,000mm)   60" (1,500mm)	40" (1,000mm)   60" (1,500mm)	40" (1,000mm)   60" (1,500mm)
Spindle Type	D1-6 Camlock	D1-6 Camlock	D1-6 Camlock	D1-6 Camlock
Spindle Bore	3.149" (80mm)	3.149" (80mm)	3.149" (80mm)	3.149" (80mm)
Spindle Speed, Standard	36~1,800 RPM (12 Steps)	36~1,800 RPM (12 Steps)	30~2,200 RPM Variable	
Main Motor	7.5HP (5.60kW)	7.5HP (5.60kW)	10HP EVS (7.5kW)	10HP EVS (7.5kW)

### 9 ELECTRONIC VARIABLE SPEED (E.V.S) DRIVES

Electronic variable speed machines incorporate inverter drive systems providing infinitely variable speeds. Centralized control on the headstock includes LED display of spindle speed, push button jog, & e-stop. Optional constant surface speed (CSS)

can be incorporated with appropriate DRO system, ideal for better surface finish and extended tool life.

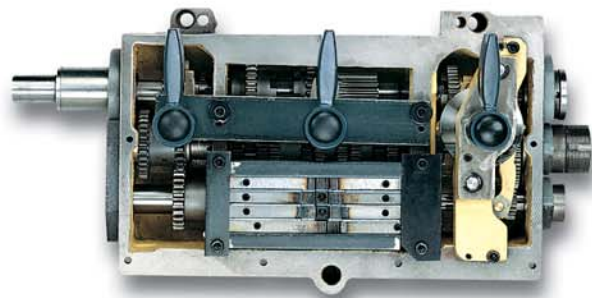
Models RL-14 and 16-TW-EVS are available in 2 versions: "T" uses Yaskawa® and factory standard electrics. "A" version uses Baldor® inverter, main drive, and NFPA-79/NEMA electrics, U.L. approved (made in the USA)

### 10 3 "VEE" BEDWAYS

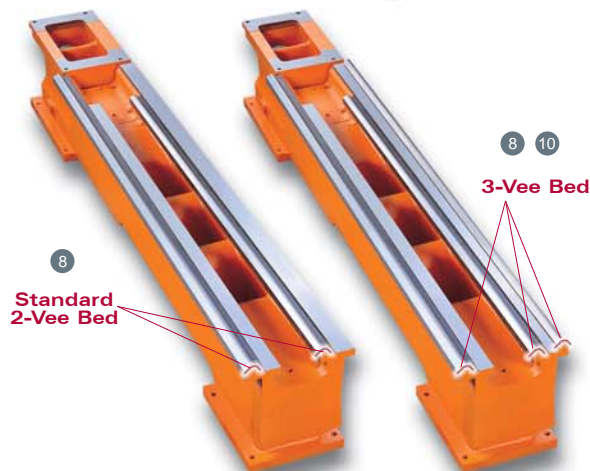
3 "VEE" ways heavy duty construction assures lasting precision & eliminates twist. Induction hardened & precision ground ways.

### SAFETY FEATURES

Nylon safety gears in end train. Shear pin in leadscrew.



7 Universal Inch/Metric Gearbox



8

Standard 2-Vee Bed

8

10

3-Vee Bed

## MACHINE OPTIONAL ACCESSORIES



**FOLLOW REST**



**STEADY REST**  
With roller tips



**TOOL POST GRINDER**  
Available in different  
wheel diameters



**FACEPLATES**  
Slotted



**DRILL CHUCK**  
Keyless & Key type  
All sizes available.



**5C HANDWHEEL COLLET CHUCK**



**LIVE CENTER**



**3 & 4 JAW CHUCKS**



**ALORIS QUICKCHANGE  
TOOLPOST SET**



**5C LEVER COLLET CLOSER**  
1 1/16" Capacity



**HALOGEN WORK LIGHT**



**KDK QUICKCHANGE  
TOOLPOST SET**



**DIGITAL READOUT SYSTEMS (DRO'S)**

Operator friendly readout system reduces setup time and increases productivity.

- Tool offsets for easy compensation of different tool sizes
- Instant radius/diameter conversion
- 2 or 3 axes display
- Preset & zero reset
- Near-zero warning
- Instant inch/mm conversion
- All popular makes



**BED TURRET**



**CHUCK GUARDS**  
Solid and clear acrylic material  
for safety



**REAR TOOL POST**



**TELESCOPIC TAPER ATTACHMENT**



**MICROMETER  
CARRIAGE STOP**





## SPECIFICATIONS - 14" & 16" GEARED HEAD / EVS DRIVE LATHES

Series	Geared Head Lathes		EVS Drive Lathes	
Model	RL-1440/1460-G	RL-1640/1660-G	RL-14-TW-EVS	RL-16-TW-EVS
<b>Capacity</b>				
Swing Over Bedways	14 ¼" (360mm)	16 ¼" (410mm)	14 ¼" (360mm)	16 ¼" (410mm)
Swing Over Cross Slide	8 ¼" (214mm)	10 ¼" (264mm)	8 ¼" (214mm)	10 ¼" (264mm)
Swing in Gap	21" (533mm)	23" (584mm)	21" (533mm)	23" (584mm)
Distance Between Centers	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)
<b>Headstock</b>				
Spindle Nose, Cam-lock	D 1-6	D 1-6	D 1-6	D 1-6
Spindle Bore (Max. Bar Diameter)	2 1/16" (52.2mm)	2 1/16" (52.2mm)	2 1/16" (52.2mm)	2 1/16" (52.2mm)
Spindle Speed (RPM x Steps)	40 ~ 2000 x 16	40 ~ 2000 x 16	Infinitely Variable (EVS)	Infinitely Variable (EVS)
Low Speed Range (RPM)	40 ~ 1000	40 ~ 1000	20 ~ 400	20 ~ 400
Medium Speed Range (RPM)	-	-	-	-
High Speed Range (RPM)	80 ~ 2000	80 ~ 2000	400 ~ 2500	400 ~ 2500
<b>Carriage</b>				
Length of Bed	20" (513mm)	20" (513mm)	20" (513mm)	20" (513mm)
Width of Bridge	16 1/16" (412mm)	16 1/16" (412mm)	16 1/16" (412mm)	16 1/16" (412mm)
Cross Slide Travel	8 ¾" (220mm)	8 ¾" (220mm)	8 ¾" (220mm)	8 ¾" (220mm)
Top Slide Travel	5 ½" (140mm)	5 ½" (140mm)	5 ½" (140mm)	5 ½" (140mm)
<b>Tailstock</b>				
Quill Diameter	2" (52mm)	2" (52mm)	2" (52mm)	2" (52mm)
Quill Center	MT#4	MT#4	MT#4	MT#4
Quill Travel	6 ½" (165mm)	6 ½" (165mm)	6 ½" (165mm)	6 ½" (165mm)
<b>Bed</b>				
Standard Bed Design	2 "V" & 2 Flat Ways	2 "V" & 2 Flat Ways	3 "V" & 1 Flat Way	3 "V" & 1 Flat Way
Bed Width	10 ¼" (260mm)	10 ¼" (260mm)	10 ¼" (260mm)	10 ¼" (260mm)
<b>Thread &amp; Feed Ranges</b>				
Range of Whitworth Threads and (No.)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)
Range of Metric Threads and (No.)	0.2 ~ 14 (39)	0.2 ~ 14 (39)	0.2 ~ 14 (39)	0.2 ~ 14 (39)
Range of D.P. and (No.)	8 ~ 44 (21)	8 ~ 44 (21)	8 ~ 44 (21)	8 ~ 44 (21)
Range of M.P. and (No.)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)
Longitudinal Feed	0.002" ~ 0.067"	0.002" ~ 0.067"	0.002" ~ 0.067"	0.002" ~ 0.067"
Cross Feed	0.001" ~ 0.034"	0.001" ~ 0.034"	0.001" ~ 0.034"	0.001" ~ 0.034"
<b>Motors</b>				
Main Spindle Motor	5HP (3.73kW)	5HP (3.73kW)	7HP (5.60kW)	7HP (5.60kW)
Coolant Pump Motor	1/8HP (0.09kW)	1/8HP (0.09kW)	1/8HP (0.09kW)	1/8HP (0.09kW)
<b>Approximate Machine Weight</b>				
Length Packed, 40" / 60"	90"/110" (2270/2785mm)	90"/110" (2270/2785mm)	90"/110" (2270/2785mm)	90"/110" (2270/2785mm)
Width Packed	44" (1120mm)	44" (1120mm)	44" (1120mm)	44" (1120mm)
Height Packed	69" (1745mm)	69" (1745mm)	69" (1745mm)	69" (1745mm)
<b>Approximate Machine Weight</b>				
Gross Weight, 40" / 60"	3,300 / 3,520 lbs.	3,410 / 3,630 lbs.	3,300 / 3,520 lbs.	3,410 / 3,630 lbs.



## SPECIFICATIONS - 17" & 20" GEARED HEAD / EVS DRIVE LATHES

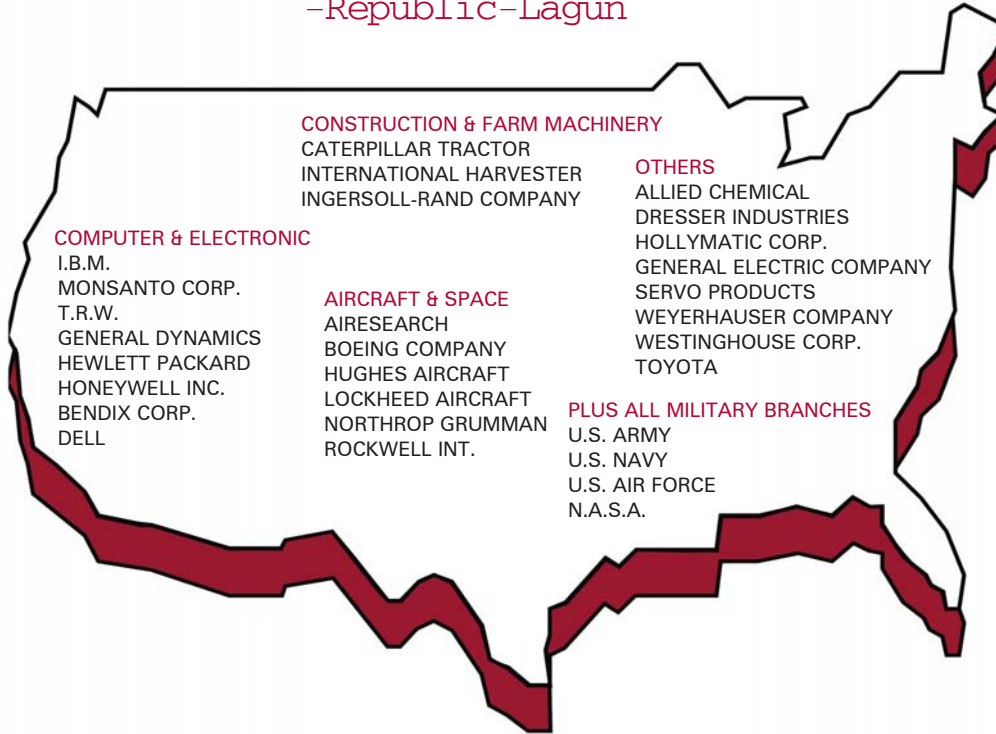
Series	Geared Head Lathes		EVS Drive Lathes	
Model	RL-1740/1760-G	RL-2040/2060-G	ML-1740/1760-T	ML-2040/2060-T
<b>Capacity</b>				
Swing Over Bedways	17" (435mm)	20" (508mm)	17" (435mm)	20" (508mm)
Swing Over Cross Slide	11" (227mm)	14" (353mm)	11" (227mm)	14" (353mm)
Swing in Gap	21" (622mm)	27 ½" (698mm)	21" (622mm)	27 ½" (698mm)
Distance Between Centers	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)	40"/60" (1000/1500mm)
<b>Headstock</b>				
Spindle Nose, Cam-lock	D 1-6	D 1-6	D 1-6	D 1-6
Spindle Bore (Max. Bar Diameter)	3.15" (80mm)	3.15" (80mm)	3.15" (80mm)	3.15" (80mm)
Spindle Speed (RPM x Steps)	36 ~ 1800 x 16	36 ~ 1800 x 16	Infinately Variable (EVS)	Infinately Variable (EVS)
Low Speed Range (RPM)	35 ~ 105	35 ~ 105	35 ~ 105	35 ~ 105
Medium Speed Range (RPM)	130 ~ 380	130 ~ 380	130 ~ 380	130 ~ 380
High Speed Range (RPM)	620 ~ 1800	620 ~ 1800	620 ~ 1800	620 ~ 1800
<b>Carriage</b>				
Length of Bed	17.32" (440mm)	17.32" (440mm)	17.32" (440mm)	17.32" (440mm)
Width of Bridge	18.77" (477mm)	18.77" (477mm)	18.77" (477mm)	18.77" (477mm)
Cross Slide Travel	10.62" (270mm)	10.62" (270mm)	10.62" (270mm)	10.62" (270mm)
Top Slide Travel	4 ¾" (120mm)	4 ¾" (120mm)	4 ¾" (120mm)	4 ¾" (120mm)
<b>Tailstock</b>				
Quill Diameter	2.32" (59mm)	2.32" (59mm)	2.32" (59mm)	2.32" (59mm)
Quill Center	MT#4	MT#4	MT#4	MT#4
Quill Travel	5" (127mm)	5" (127mm)	5" (127mm)	5" (127mm)
<b>Bed</b>				
Standard Bed Design *3 "V" & 1 Flat Way Opt.	2 "V" & 2 Flat Ways	2 "V" & 2 Flat Ways	2 "V" & 2 Flat Ways*	2 "V" & 2 Flat Ways*
Bed Width	12" (305mm)	12" (305mm)	12" (305mm)	12" (305mm)
<b>Thread &amp; Feed Ranges</b>				
Range of Whitworth Threads and (No.)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)	2 ~ 72 TPI (45)
Range of Metric Threads and (No.)	0.2 ~ 14 (39)	0.2 ~ 14 (39)	0.2 ~ 14 (39)	0.2 ~ 14 (39)
Range of D.P. and (No.)	8 ~ 44 (21)	8 ~ 44 (21)	8 ~ 44 (21)	8 ~ 44 (21)
Range of M.P. and (No.)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)	0.3 ~ 3.5 (18)
Longitudinal Feed	0.0015" ~ 0.04"	0.0015" ~ 0.04"	0.0015" ~ 0.04"	0.0015" ~ 0.04"
Cross Feed	0.00075" ~ 0.02"	0.00075" ~ 0.02"	0.00075" ~ 0.02"	0.00075" ~ 0.02"
<b>Motors</b>				
Main Spindle Motor	7HP (5.60kW)	7HP (5.60kW)	10HP (7.5kW)	10HP (7.5kW)
Coolant Pump Motor	1/8HP (0.09kW)	1/8HP (0.09kW)	1/8HP (0.09kW)	1/8HP (0.09kW)
<b>Approximate Machine Weight</b>				
Length Packed, 40" / 60"	94"/114" (2400/2900mm)	94"/114" (2400/2900mm)	94"/114" (2400/2900mm)	94"/114" (2400/2900mm)
Width Packed	44" (1120mm)	44" (1120mm)	44" (1120mm)	44" (1120mm)
Height Packed	69" (1745mm)	69" (1745mm)	69" (1745mm)	69" (1745mm)
<b>Approximate Machine Weight</b>				
Gross Weight, 40" / 60"	3,858 / 4,409 lbs.	3,968 / 4,740 lbs.	3,858 / 4,409 lbs.	3,968 / 4,740 lbs.

**To All Republic-Lagun & Republic  
Valued Customers & Friends**

We would like to take this opportunity to thank you for the loyalty and confidence you have displayed in our products during the past 35 years.

We realize that our success is dependent on your continued friendship, satisfaction, & support.

**-Republic-Lagun**



**SUPERIOR  
FEATURES**

- ▶ Republic Lathes Have Been Sold by Republic Lagun for over 30 Years
- ▶ Designed and Engineered for the American Market
- ▶ Solid Construction ensures Maximum Stability Under Heavy Cutting Conditions
- ▶ 3-Bearing Spindle Support with Opposed Timken® Taper Roller Bearings
- ▶ Service and Parts Readily Available
- ▶ Large Compliment of Options and Accessories in Stock
- ▶ Over 15,000 Lathes Now In Operation
- ▶ CNC Versions Also Available

\*Descriptions, specifications, and illustrations are subject to change without notice. Not responsible for misprints or typographical errors. Shown below are other turning machines available through Republic Lagun. For more information please contact us for the machines individual catalogs.



**Republic - LAGUN  
Machine Tool Co.**

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