



SUN MASTER



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MANUAL LATHE

**2. VARIABLE
SPEED
TYPE**

FC-V / ML-V
RML-V / ERL-V
TL-V

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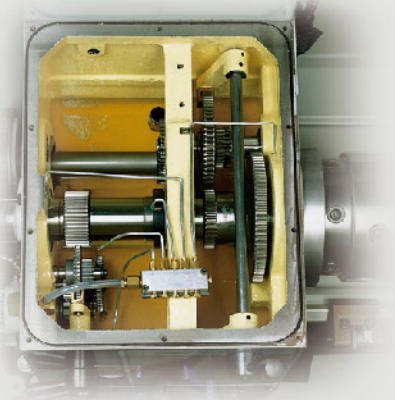
FC-V.ML-V.RML-V. ERL-V.TL-V Series

Features

- Nylon safety gears in end train.
(Not for every model)
- Shear pin in lead screw.
- Low voltage control in electrical cabinet.

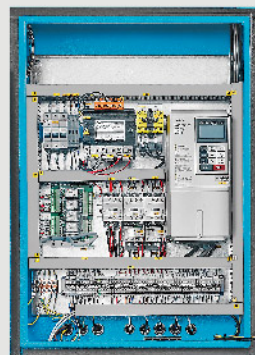
E.V.S. HEADSTOCK

- Forced lubrication to all running points
- Hardened & ground gears and shafts.
- R.P.M. LED display indicator makes it easy to obtain the optional constant surface speed also improves cutting tool life.
- Electronic control panel located on top of headstock, with RPM display unit, speed control electric knob, emergency stop and motor start push button.
- Electronic infinitely variable speed with A.C. motor inverter.
- Two to three headstock gears (depends on different models) speed ranges supply a high torque in low range from 20 rpm to high speed in high range 2500 rpm max.



E.V.S. MODEL ELECTRIC CONTROL

- CE electric upon request.
- The electric cabinet is sealed protected against entrance of water, dirt and other contaminants.
- A main disconnect switch provided.
- Electric 1/4 HP pump for headstock pressure lubrication.
- Prolong life expectancy of gears and spindle.
- Combination of forced lubrication and oil bath system in headstock.



HEAVY DUTY SPINDLE

- Camlock type spindle
- Precision machined from forged alloy steel, hardened, precision ground & dynamically balanced.
- Three point support by high precision taper roller and ball bearings eliminates chatter when performing heavy cut.



- CSS (constant surface speed control) available as option upon request for E.V.S. models.

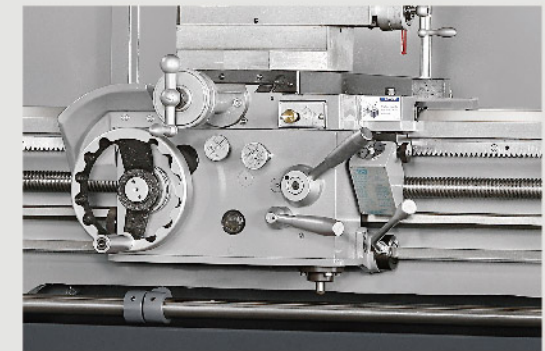
BED

- The ruggedly constructed bed is manufactured from Meehanite cast iron and stress relieved.
- Bed ways are hardened and precision ground.



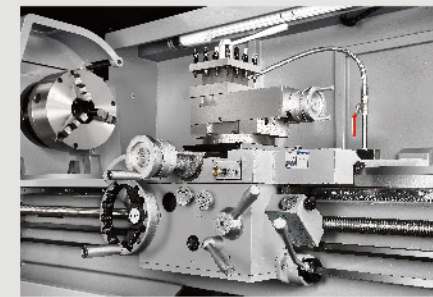
COMPOUND REST

- The compound rest has T-slot for convenient mounting of tool holder.
- Both the cross slide and the compound rest screws are equipped with inch/metric graduated dials.
- The bottom of the compound slide is graduated in degrees for quick reference when swiveling.



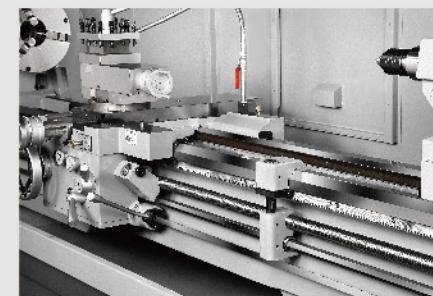
APRON

- The apron is a double wall construction, providing a firm support for power feed shaft.
- Choice of right or left hand wheel.
- Integrated automatic control for longitudinal and cross feeds, forward and reverse feeds.
- An interlock design prevents simultaneous power feed and thread cutting.



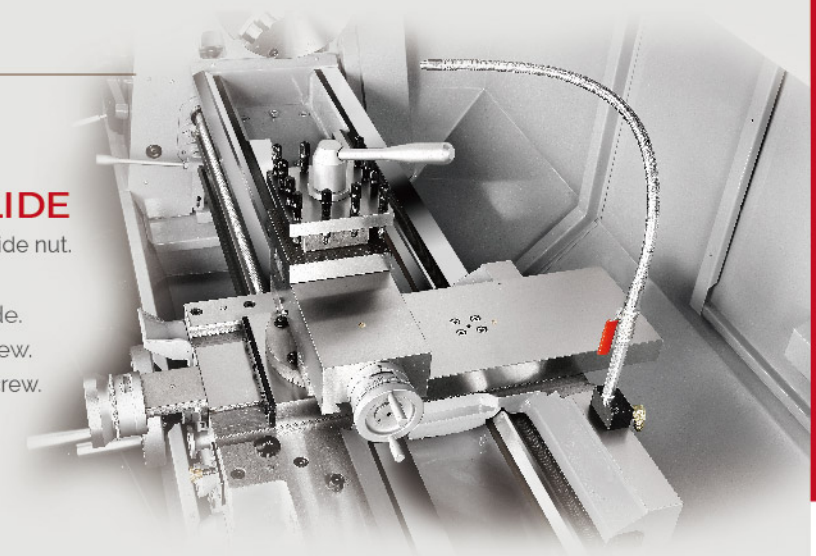
RUGGED TAILSTOCK

- Tailstock quill is graduated in inch/metric scales and has a tang slot for positive drive of tool.
- 2-step tailstock is available on request.

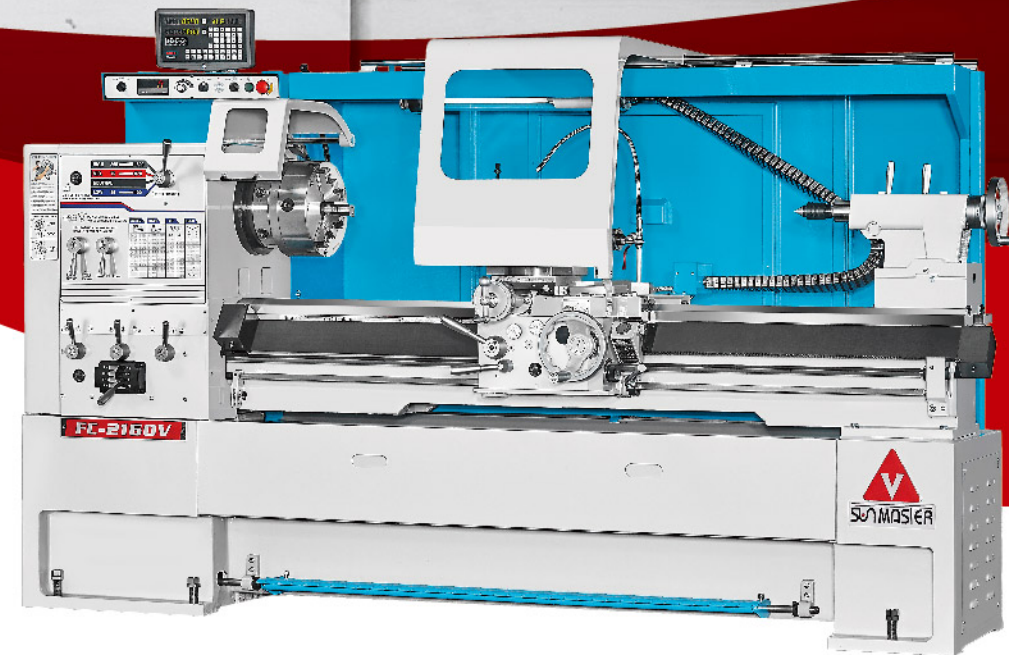


CARRIAGE AND CROSS SLIDE

- Anti-float backlash eliminator is fitted in cross slide nut.
- Safety clutch is equipped to feed shaft.
- One shot lubrication for carriage and top slide.
- Designed with dual dials for inch system screw.
- Designed with metrical dial for metric system screw.



FC-V Series



- All models with one piece solid stand.
- All models with universal feed gearbox & reversable apron.
- All models meet CE. (on request).
- All models with 80mm (3.149") spindle bore, ASA D1-8.
- All models cross slide is hardened and ground to prolong operation life.

FEATURES

- All castings are properly stabilized and stress relieved.
- Bed ways are hardened ground to min. HRC 48-55.
- Turcite B coating between the bed and carriage.
- Extremely low noise level.
- Foot brake pedal provided.
- Built-in coolant pump fitting provided.
- Wider bed way which give absorbs vibration.
- γ - Δ spindle motor equipped to make sure smooth start and operation.

STANDARD ACCESSORIES

- Backplate for 10" chuck
- Dead center MT.5
- Dead center MT.4 with carbide tip
- Spindle center sleeve $\varnothing 85$ Taper 1/19.18
- Level pads...6~8 pcs
- Tool set & Box
- Operation manual & parts list

MODEL	FC	1640V	1660V	1840V	1860V	1880V	2140V	2160V	2180V
Capacity									
Height of centers		205 mm (8.07")			231 mm (9.05")			271 mm (10.67")	
Swing over bed		410 mm (16.14")			$\varnothing 462$ mm (18.11")			$\varnothing 542$ mm (21.34")	
Swing in gap		583 mm (22.95")			$\varnothing 650$ mm (25.59")			$\varnothing 730$ mm (28.74")	
Swing over cross slide		262 mm (10.3")			$\varnothing 305$ mm (12")			$\varnothing 387$ mm (15.23")	
Distance between centers		1000 mm (40")	1500 mm (60")	1000 mm (40")	1500 mm (60")	2120 mm (83.46")	1000 mm (40")	1500 mm (60")	2120 mm (83.46")
Width of bed					320 mm (12.5")				
Gap width in front of faceplate					195 mm (7.67")				
Headstock and Main Spindle									
Spindle nose, internal taper					D1-8 /A1-8 (opt) $\varnothing 85$ mm Taper 1/19.18				
Spindle center sleeve					$\varnothing 85$ mm Taper 1/19.18 x MT. No.5				
Spindle bore					$\varnothing 80$ mm (3.149")				
Spindle speed					3 steps				
Gear steps / Range					L 25-100 rpm M 75-370 rpm H 360-1800 rpm				
Carriage									
Cross slide travel		250 mm (9.84")				300 mm (11.81")			
Top slide travel					150 mm (5.9")				
Threads and Feeds									
Whitworth threads: Kinds / Range					45 kinds / 2~ 72 T.P.I				
Metric threads: Kinds / Range					39 kinds / 0.2-14 mm				
D.P. threads: Kinds / Range					21 kinds / 8-44 D.P				
M.P. threads: Kinds / Range					18 kinds / 0.3-3.5 M.P				
Longitudinal feeds					0.04-1.0 (0.015"-0.04")				
Cross feeds					0.02-0.5 (0.00075"-0.02")				
Tailstock									
Quill diameter			$\varnothing 59$ mm (2.322")			$\varnothing 68$ mm (2.677")	$\varnothing 59$ mm (2.322")		$\varnothing 68$ mm (2.677")
Quill travel			127 mm (5")			153 mm (6")	127 mm (5")		153 mm (6")
Taper of center					MT. NO. 4				
Motor									
Main spindle					Std. AC 75 kW (10HP) / Opt. AC 9.375 kW (12.5 HP), Inverter (15 HP/11.25 KW)				
Coolant pump					1/8 HP				
Forced lubrication for headstock					1/4 HP				
Measurement									
Weight Approx.	Net	1750 kgs	1900 kgs	1800 kgs	1950 kgs	2350 kgs	1850 kgs	2000 kgs	2400 kgs
	Gross	1950 kgs	2150 kgs	2000 kgs	2200 kgs	2650 kgs	2050 kgs	2250 kgs	2700 kgs
Packing sizes	Length	2400 mm	2900 mm	2400 mm	2900 mm	3700 mm	2400 mm	2900 mm	3700 mm
	Width x Height	Width 1155 mm (45.5") x Height 1900 mm (74.8")							

Specifications subject to change without notice.

ML-V Series

- All models with auto lubrication system to headstock & external tank for cooling the oil.
- All models with one piece solid stand.
- All models with universal feed gearbox & reversable apron.
- All models meet CE. (on request)
- All models with 80 mm (3.149") spindle bore, ASA D1-6.
- All models cross slide is hardened and ground to prolong operation life.

FEATURES

- All castings are properly stabilized and stress relieved.
- Bed ways are hardened ground to min. HRC 48-55.
- Turcite B coating between the bed and carriage.
- Extremely low noise level.
- Foot brake pedal provided.
- Built-in coolant pump fitting provided.
- Wider bed way which give absorbs vibration.

STANDARD ACCESSORIES

- Backplate for 10" chuck
- Dead center MT.5
- Dead center MT.4 with carbide tip
- Spindle center sleeve... Ø85mm Taper 1/19.18
- 5. Level pads...6 pcs
- 6. Tool set & Box
- 7. Operation manual & parts list



MODEL	ML	1740V	1760V	2040V	2060V
Capacity					
Height of centers		216 mm (8.5")		254 mm (10")	
Swing over bed		Ø432 mm (17")		Ø508 mm (20")	
Swing in gap		Ø622 mm (24.48")		Ø698 mm (27.48")	
Swing over cross slide		Ø277 mm (10.9")		Ø353 mm (13.89")	
Distance between centers		1000 mm (40")	1500 mm (60")	1000 mm (40")	1500 mm (60")
Width of bed			305 mm (12")		
Gap width in front of faceplate			195 mm (7.67")		
Headstock and Main Spindle					
Spindle nose, internal taper		D1-6 / A1-6 (Opt) Ø85 mm Taper 1/19.18			
Spindle center sleeve		Ø85 mm Taper 1/19.18 x MT. No.5			
Spindle bore		Ø80 mm (3.149")			
		3 steps			
		L 30-125 R.P.M.			
		M 125-450 R.P.M.			
		H 450-2200 R.P.M.			
		Infinitely variable			
Carriage					
Length on bed / Width of carriage		440 mm (17.32") / 477 mm (18.77")			
Cross slide travel		235 mm (9.25")		272 mm (10.7")	
Top slide travel		155 mm (6.1")			
Threads and Feeds					
Whitworth threads: Kinds / Range		45 kinds / 2-72 T.P.I.			
Metric threads: Kinds / Range		39 kinds / 0.2-14 mm			
D.P. threads: Kinds / Range		21 kinds / 8-44 D.P.			
M.P. threads: Kinds / Range		18 kinds / 0.3-3.5 M.P.			
Longitudinal feeds		0.04-1.0 mm (0.0015"-0.04")			
Cross feeds		0.02-0.5 mm (0.00075"-0.02")			
Tailstock					
Quill diameter		Ø59 mm (2.322")			
Quill travel		127 mm (5")			
Taper of center		MT. No. 4			
Motor					
Main spindle		AC 5.5 kW (7.5HP), Inverter			
Coolant pump		1/8 HP			
Forced lubrication for headstock		1/4 HP			
Measurement					
Weight (Net /Gross)		1700 kgs	1850 kgs	1750 kgs	1900 kgs
Approx.		1800 kgs	2010 kgs	1890 kgs	2060 kgs
Packing sizes	Length	2400 mm (94.5")	2900 mm (114.2")	2400 mm (94.5")	2900 mm (114.2")
	Width x Height	Width 1115 mm (45.5") x Height 1900 mm (74.8")			

Specifications subject to change without notice.

TL-V Series

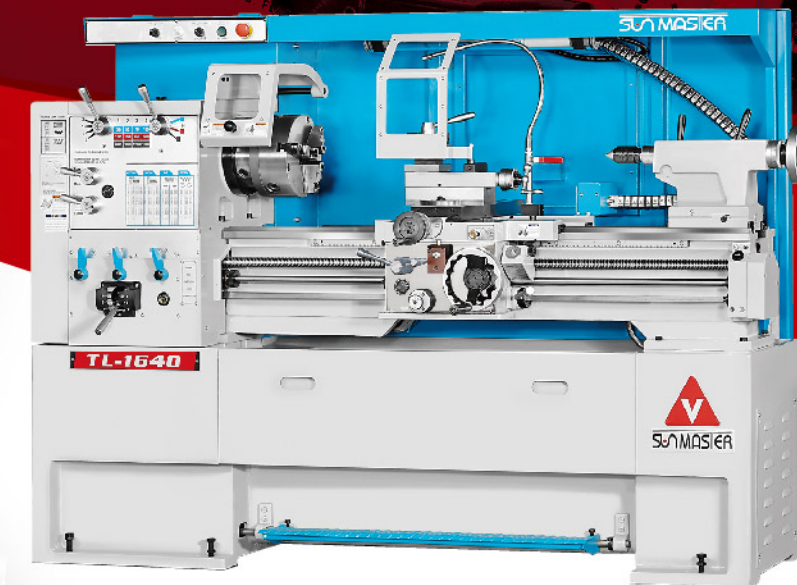
- All models with one piece solid stand.
- All models with universal feed gearbox & reversable apron.
- All models meet CE. (on request)
- All models with 52.5mm (2.066") spindle bore, ASA D1-6.

FEATURES

- All castings are properly stabilized and stress relieved.
- Bed ways are hardened & ground to min. HRC 48-55.
- Turcite B coating between the bed and carriage.
- Extremely low noise level.
- Foot brake pedal provided.
- Built-in coolant pump & fitting provided.
- Wider bed way which give absorbs vibration.

STANDARD ACCESSORIES

- Backplate for 9" chuck
- Dead center MT.4
- Dead center MT.4 with carbide tip
- Spindle center sleeve Ø70 Taper 1/19.18
- Level pads...6 pcs
- Tool set & Box
- Operation manual & parts list



MODEL	TL	1440V	1640V	1660V
Capacity				
Height of centers		180 mm (7.08")		205 mm (8.07")
Swing over bed		Ø360 (14.17")		Ø410 mm (16.14")
Swing in gap		Ø533 mm (20.98")		Ø583 mm (22.95")
Swing over cross slide		Ø210 mm (8.06")		Ø260 mm (10.23")
Distance between centers		1000 mm (40")	1000 mm (40")	1500 mm (60")
Width of bed			Ø260 mm (10.236")	
Gap width in front of faceplate			135 mm (5.31")	225 mm (8.85")
Headstock and Main Spindle				
Spindle nose type			D1-6	
Spindle center sleeve			Ø70mm Taper 1/19.18 x MT. NO.4	
Spindle bore			Ø65 mm (2.55")	
Spindle speed:			3 steps	
Gear steps / Range			30-2300 R.P.M.	
Carriage				
Cross slide travel			220 mm (8.6")	
Top slide travel			120 mm (4.92")	
Threads and Feeds				
Whitworth threads: Kinds / Range			45 kinds / 2-72 T.P.I.	
Metric threads: Kinds / Range			39 kinds / 0.2-14 mm	
D.P. threads: Kinds / Range			21 kinds / 8-44 D.P.	
M.P. threads: Kinds / Range			18 kinds / 0.3-3.5 M.P.	
Longitudinal feeds			0.05-1.7 mm (0.002"-0.067")	
Cross feeds			0.025-0.85 mm (0.001"-0.034")	
Tailstock				
Quill diameter			Ø52 mm (2.47")	
Quill travel			152 mm (6")	
Taper of center			MT. No.4	
Motor				
Main spindle			5 HP (3.7 KW), Inverter	
Coolant pump			1/8 HP	
Forced lubrication for headstock			1/4 HP	
Measurement				
Weight (Net /Gross)		1550 kgs	1600 kgs	1700 kgs
Approx.		1670 kgs	1720 kgs	1860 kgs
Packing sizes	Length	2270 kgs (89.4")	2270 kgs (89.4")	2785 kgs (109.7")
	Width x Height	Width 1120 mm (44.1") x Height 1900 mm (74.8")		

Specifications subject to change without notice.

RML-V Series

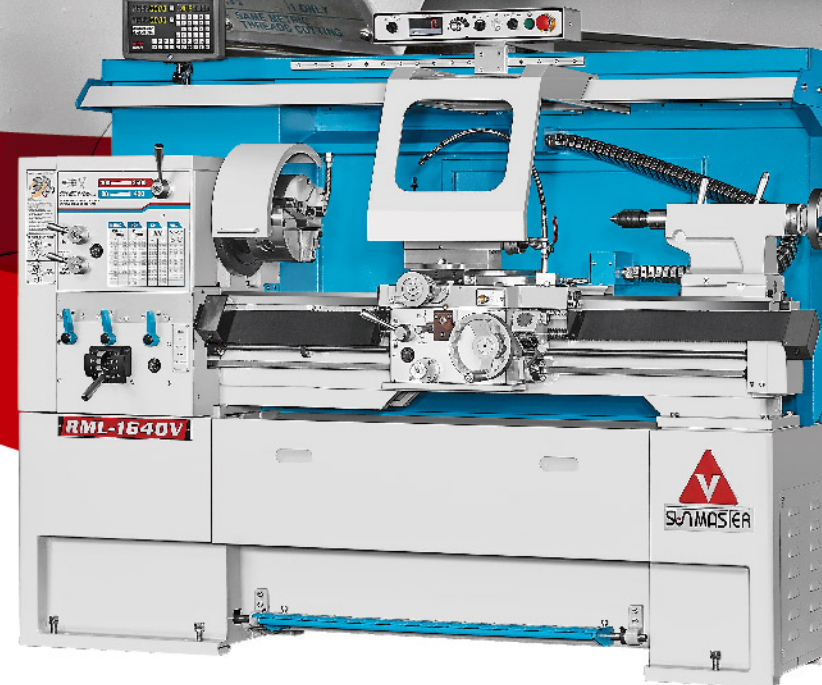
- All models with one piece solid stand. (Except 1430/1630)
- All models with universal feed gearbox & reversable apron.
- All models meet CE. (on request)
- All models with 52.5mm (2.066") spindle bore, ASA D1-6.

FEATURES

- All castings are properly stabilized and stress relieved.
- Bed ways are hardened & ground to min. HRC 48-55.
- Turcite B coating between the bed and carriage.
- Extremely low noise level.
- Foot brake pedal provided.
- Built-in coolant pump & fitting provided.
- Wider bed way which give absorbs vibration.

STANDARD ACCESSORIES

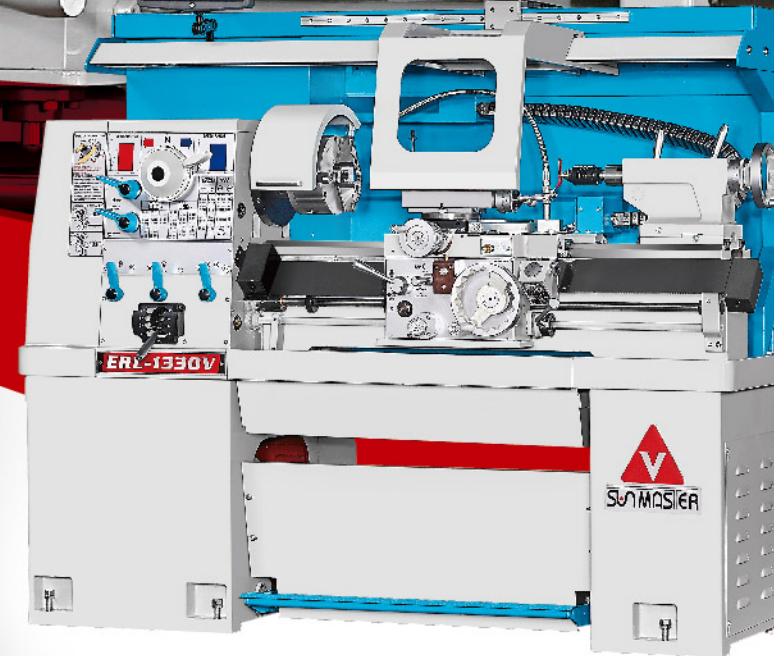
- Backplate for 9" chuck
- Dead center MT.4
- Center MT.4 with carbide tip
- Spindle center sleeve MT.6
- Level pads...6 pcs
- Tool set & Box
- Operation manual & parts list



MODEL	FRL	1430V	1440V	1460V	1630V	1640V	1660V
Capacity							
Height of centers			180 mm (7.08")			205 mm (8.07")	
Swing over bed			ø360 mm (14.17")			ø410 mm (16.14")	
Swing in gap				ø533 mm (20.98")			ø583 mm (22.95")
Swing over cross slide			ø212 mm (8.35")			ø262 mm (10.3")	
Distance between centers		800 mm (31.5")	1000 mm (40")	1500 mm (60")	800 mm (31.5")	1000 mm (40")	1500 mm (60")
Width of bed			260 mm (10.236")			260 mm (10.236")	
Gap width in front of faceplate			135 mm (5.31")	225 mm (8.85")		135 mm (5.31")	225 mm (8.85")
Headstock and Main Spindle							
Spindle nose, internal taper					D1-6 / A1-6 (Opt), MT. No.6		
Spindle center sleeve					MT. No.6 x MT. No.4		
Spindle bore					ø52.5 mm (2.066")		
					2 steps / L 20-400 R.P.M.		
Spindle speed					H 400-2500 R.P.M.		
Gear steps / Range					Opt. 25-3000 R.P.M. Infinitely variable		
Carriage							
Length on bed / Width of carriage					513 mm (20.19") / 412 mm (16.22")		
Cross slide travel					220 mm (8.6")		
Top slide travel					125 mm (4.92")		
Threads and Feeds							
Whitworth threads: Kinds / Range					45 Kinds / 2-72 T.P.I.		
Metric threads: Kinds / Range					39 Kinds / 0.2-14 mm		
D.P. threads: Kinds / Range					21 Kinds / 8-44 D.P.		
M.P. threads: Kinds / Range					18 Kinds / 0.3-3.5 M.P.		
Longitudinal feeds					0.05-1.7 mm (0.002"-0.067")		
Cross feeds					0.025-0.85 mm (0.001"-0.034")		
Tailstock							
Quill diameter					ø52 mm (2.047")		
Quill travel					152 mm (6")		
Taper of center					MT. No.4		
Motor							
Main spindle					AC 3.7 kW (5 HP), inverter		
Coolant pump					1/8 HP		
Forced lubrication for headstock					1/4 HP		
Measurement							
Weight (Net /Gross)		1300 kgs	1350 kgs	1450 kgs	1350 kgs	1400 kgs	1500 kgs
Approx.		1400 kgs	1470 kgs	1610 kgs	1450 kgs	1520 kgs	1660 kgs
Packing sizes	Length	2070 mm (81.5")	2270 mm (89.4")	2785 mm (109.7")	2070 mm (81.5")	2270 mm (89.4")	2785 mm (109.7")
	Width x Height	Width 1120 mm (44.1") x Height 1900 mm (74.8")					

Specifications subject to change without notice.

ERL-V Series



- All models with oil bathed lubrication system to headstock.
- All models meet CE. (on request)
- All models with 40mm (1.57") spindle bore, ASA D1-4.

FEATURES

- All castings are properly stabilized and stress relieved.
- Bed ways are hardened & ground to min. HRC 48-55.
- Extremely low noise level.
- Foot brake pedal provided.
- Built-in coolant pump & fitting provided.
- Wider bed way which give absorbs vibration.

STANDARD ACCESSORIES

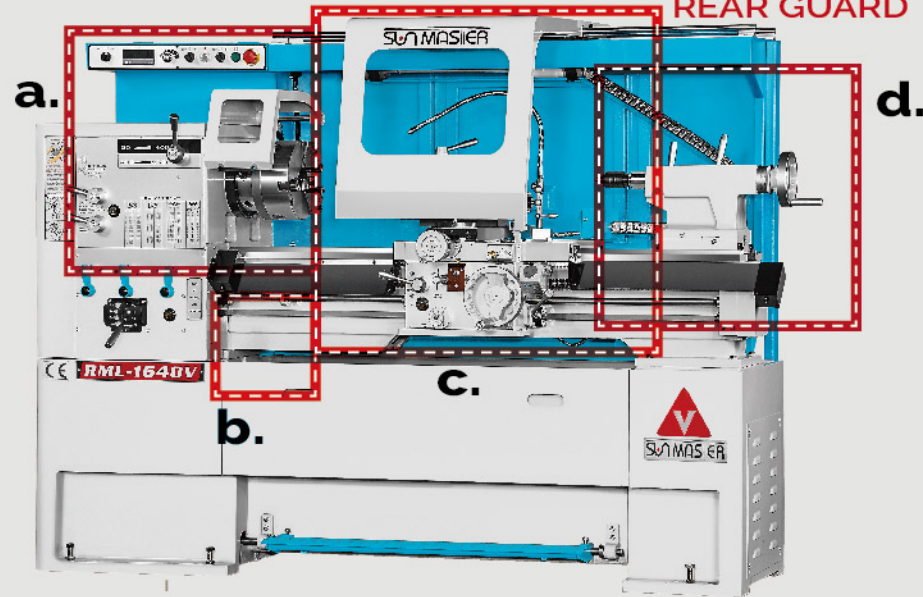
- Backplate for 7" chuck
- Dead center MT.3
- Center MT.3 with carbide tip
- Spindle center sleeve MT.5
- Level pads...6 pcs
- Tool set & Box
- Operation manual & parts list

MODEL	ERL	1330V	1340V
Capacity			
Height of centers			171 mm (6.73")
Swing over bed			ø342 mm (13.46")
Swing in gap			ø512 mm (20")
Swing over cross slide		ø205 mm (8.07")	
Distance between centers	760 mm (30")		1000 mm (40")
Width of bed		230 mm (9")	
Gap width in front of faceplate			150 mm (5")
Headstock and Main Spindle			
Spindle nose, internal taper			D1-4, MT. No.5
Spindle center sleeve			MT. No.5 x MT. No.3
Spindle bore			ø40 mm (1.57") 2 steps
Spindle speed:			L 100-500 R.P.M.
Gear steps / Range			H 500-3000 R.P.M. Infinitely variable
Carriage			
Length on bed / Width of carriage		400 mm (15.748") / 384 mm (15.118")	
Cross slide travel		180 mm (7")	
Top slide travel		95 mm (3.74")	
Threads and Feeds			
Whitworth threads: Kinds / Range			45 kinds / 2-72 T.P.I.
Metric threads: Kinds / Range			39 kinds / 0.2-14 mm
D.P. threads: Kinds / Range			21 kinds / 8-44 D.P.
M.P. threads: Kinds / Range			18 kinds / 0.3-3.5 M.P.
Longitudinal feeds		0.05-1.7 mm (0.002"-0.067")	
Cross feeds		0.025-0.85 mm (0.001"-0.034")	
Tailstock			
Quill diameter		ø50 mm (1.968")	
Quill travel		112 mm (4.5")	
Taper of center			MT. No.3
Motor			
Main spindle			AC 2.2 kW (3 HP), Inverter
Coolant pump			1/8 HP
Forced lubrication for headstock			1/4 HP
Measurement			
Weight (Net /Gross) Approx.		850 / 950 kgs	1000 / 1120 kgs
Packing sizes	Length	2000 kgs (78.8")	2270 kgs (89.4")
	Width x Height	Width 965 mm (38") x Height 1900 mm (74.8")	

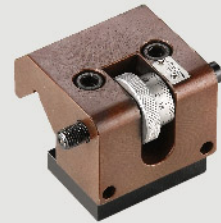
Specifications subject to change without notice.

FC-V.ML-V.RML-V. ERL-V.TL-V Series | Optional Accessories

DELUXE TYPE
REAR GUARD



a 5C LEVER TYPE COLLET CLOSER



b MICROMETER CARRIAGE STOP



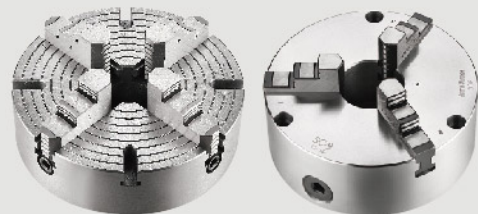
5-STEP CARRIAGE STOP



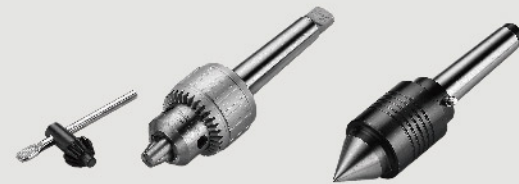
a CHUCK SAFETY GUARDS
■ Solid and clear acrylic material for safety.



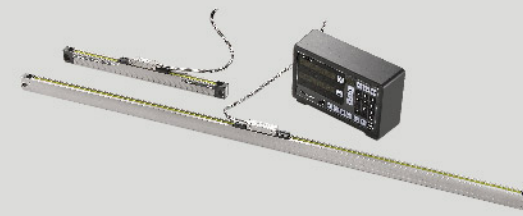
a FACEPLATES
■ Slotted. For all models.



a 4 & 3 JAW CHUCK



d DRILL CHUCKS
■ keyless and key type.
■ All sizes available.
LIVE CENTERS



DIGITAL READOUT SYSTEM (DRO)

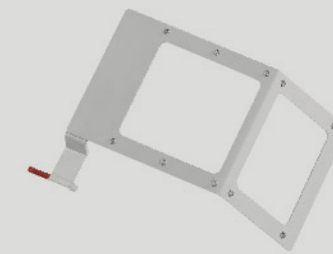
Operator friendly readout systems reduce setup time and increase productivity.

Features available:

- Tool offsets for easy compensation of different tool sizes
- Instant radius/ diameter conversion reduces math errors and allows you to machine to print dimensions.
- 2 or 3 axes display.
- Preset and zero rest.
- Instant inch/mm conversion.
- Near-zero warning.
- Most popular brands.



c TELESCOPIC TAPER ATTACHMENT
■ Available for all models.



c TOOL POST SAFETY GUARD



c HAND WHEEL COVER



c STEADY REST
■ For all models with roller tips.



c POWER FEED



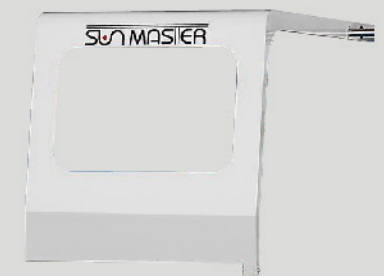
c WORKING LIGHT



c QUICK CHANGE TOOL POST SET



c FOLLOW REST
■ For all models.
■ With bronze or roller tips.



c SLIDING TOOL POST SAFETY GUARD