



ROMI®

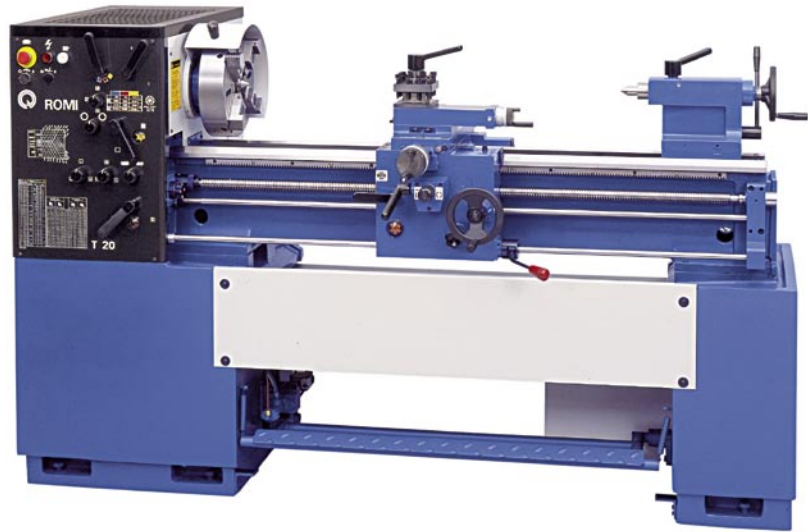
**Tormax Series
ES-40 Series**

Engine Lathes



Tormax Series. Engine lathes for tool room, production, maintenance and training

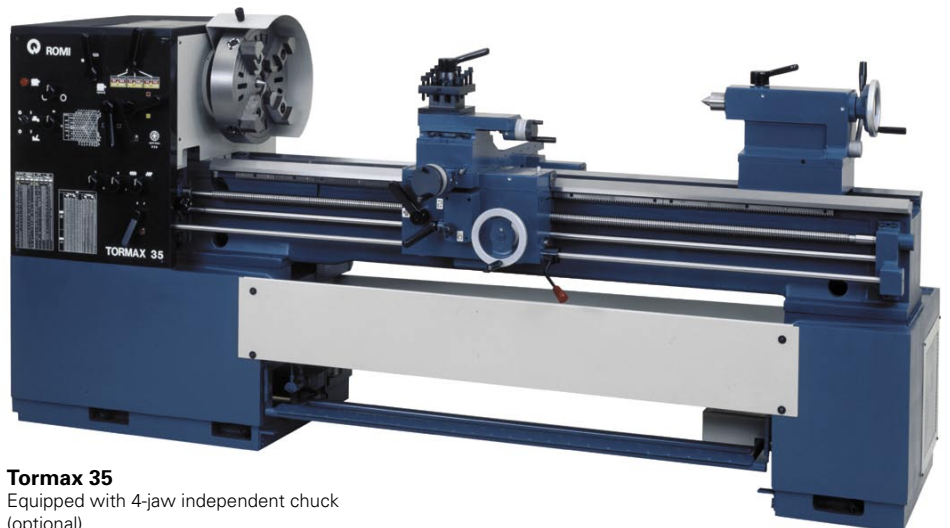
Tormax Series engine lathes are versatile and accurate. They provide multiple speed and feed combinations to meet the most diverse machining requirements.



Tormax 20
Equipped with 4-jaw independent chuck (optional)



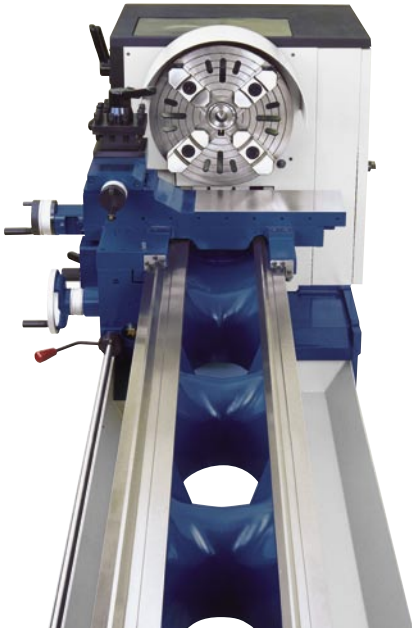
Tormax 30
Equipped with 4-jaw independent chuck (optional)



Tormax 35
Equipped with 4-jaw independent chuck (optional)

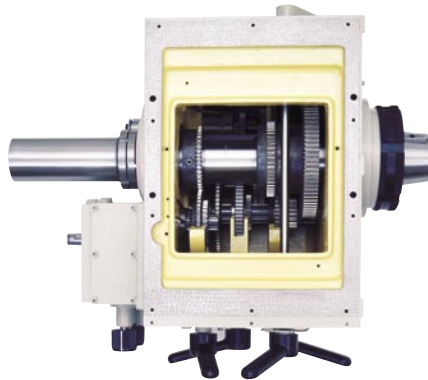
Bed

The bed, double wall, construction is internally ribbed and provides excellent rigidity. Guide ways are hardened and ground with hardness above 450 Brinell.



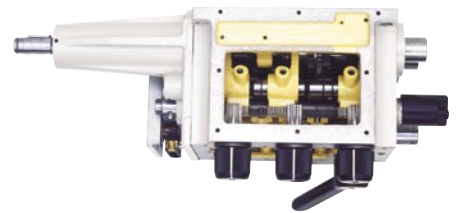
Headstock

Hardened and ground gears and shafts, are dynamically balanced and run in an oil bath. The wide range of speeds and the large number of speeds enables the selection of optimum metal cutting conditions. The rigid cast housing together with the excellent transmission system ensure high performance and a long working life.



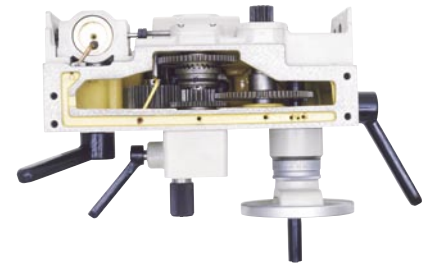
Thread and feed gearbox

Provides multiple feed and thread pitch combinations. Gears and shafts are hardened, run in precision bearings all in an oil bath for optimum lubrication.



Apron

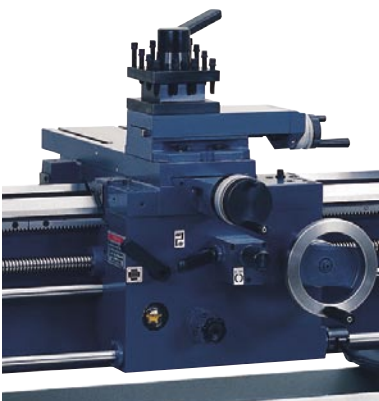
Utilizes hardened gears and shafts running in oil bath. It features smooth engagement of cross and longitudinal feed levers. During thread cutting the half-nut is engaged and receives additional lubrication automatically.



Carriage

Structurally rigid, the cross slide covers the full length of saddle guide ways. It incorporates a system to eliminate backlash between nut and cross feed screw.

The top slide and tool post may be positioned at any angle for turning operations.



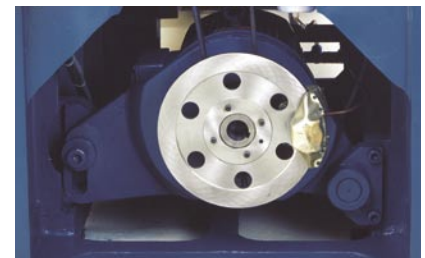
End gearing

All gears are made of SAE 8620 steel. There is no gear change required for conversion from Metric to Inch threads or from Module to Diametral Pitch threads. Gear change is required only for conversion from Metric and Inch threads to Module and Diametral Pitch threads.



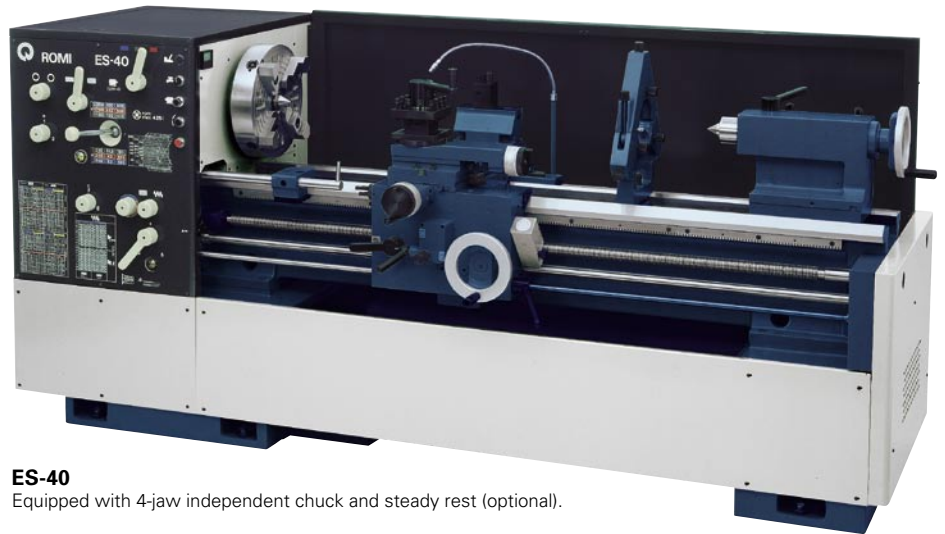
Braking system

The automotive type braking system consists of a rotor and calipers. It is hydraulically assisted and actuated by operator foot pressure on the horizontal foot pedal. Pressure on the foot pedal also interrupts electric power to the main motor.



ES-40 Series. Engine lathes for tool room, production and maintenance

ES-40 Series lathes are robust and versatile with high power and torque. They provide the power and flexibility to machine many part configurations.



ES-40
Equipped with 4-jaw independent chuck and steady rest (optional).

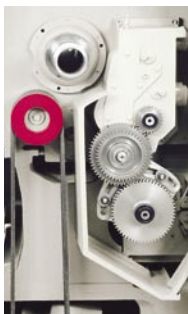
Headstock

Gears and shafts are hardened, ground and dynamically balanced. Pressure lubrication is used to minimize wear. The rigid housing together with the efficient transmission system provides excellent performance without vibration and noise. The wide range of speeds and the large number of speeds enables the selection of optimum metal cutting conditions.



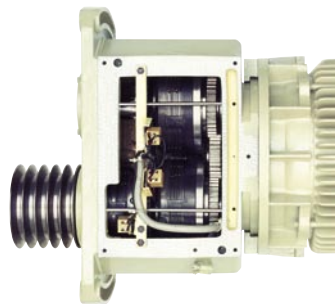
End gearing

All gears are made of SAE 8620 steel. There is no gear change required for conversion from Metric to Inch threads or from Module to Diametral Pitch threads. Gear change is required only for conversion from Metric and Inch threads to Module and Diametral Pitch threads.



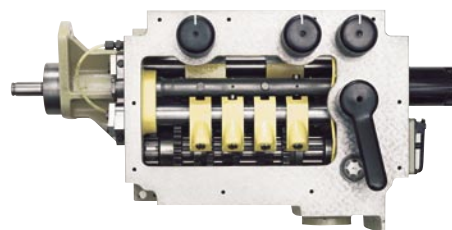
Electromagnetic clutches

Enables smooth and fast starting, braking and reversing of the main spindle and protects against motor overload. The lubrication system has radiators for maintaining constant temperature of the lubricating oil and a pressure switch that shuts down the machine in case of oil flow interruption.



Thread and feed gearbox

Provides 385 thread pitches and feeds. Gears and shafts are hardened, run in precision bearings all in an oil bath for optimum lubrication. Provides excellent performance and a long working life.



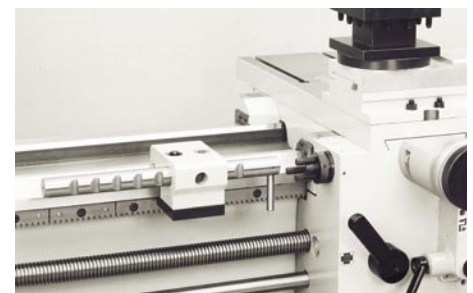
Four-way rapid traverse apron

The joystick enables carriage movement and centralizes control of work feed and rapid traverse in a single lever. The rapid traverse and work feed selection is controlled by a pushbutton on the control lever. (3,500 mm/min longitudinal travel and 1,300 mm/min cross travel). (Optional available only for models ES-40 / ES-40A).



Automatic disengagement

Enables accurate repeatability of up to 4 linear measurements, decreasing cycle times for the production of multiple parts. ES-40 / ES-40A models also incorporate an adjustable single-position cross automatic disengagement.



Engine lathe - Tormax 20/20A

Standard equipment

- 8 - position square tool post mounted on a rotating base
- Manual pump for bed and cross slide guideway lubrication
- Chip pan
- Chuck guard
- Control electric switch and safety system incorporated in the apron
- Electrical system for 220V 60Hz
- Foot operated single disc brake coupled to main motor
- Reduction sleeve for main spindle with MT-3 x 60° center
- Safety micro-switch in end gearing door
- Set of instruction manuals
- Set of leveling screws and nuts
- Set of wrenches for machine operation
- Spindle nose ASA L0 with Ø 40 mm through hole
- Standard colors: Munsell Blue 10B-3/4 and Gray RAL 7035
- Tailstock MT-3 x 60° center, with quill graduated in millimeters and inches
- Bayonet type 5 (DIN 55027) spindle nose with Ø 40 mm through spindle (in place of standard)
- Camlock D1-4" spindle nose with 40mm hole diameter through (in place of standard)
- Complete coolant system
- Electrical equipment for 380 V or 440 V, 50 Hz
- Follow rest with bronze tips, Ø 4.5 to Ø 50 mm diameter capacity
- Full length rear splash guard
- Graduated handwheel (mm) for apron
- Graduated handwheel (mm) for tailstock
- Live center MT-3
- Micrometer carriage stop
- Open sided rear tool post with fixed base
- Safety device with switches on travel limits
- Steady rest with bronze tips, Ø 4.5 to Ø 50 mm capacity
- Taper turning attachment Ø 210 mm turning length, 15° maximum angle
- Thread chasing dial
- Worklight attachment

- (a) Maximum speed 2,100 rpm
(b) Maximum speed 1,700 rpm

Accessories

- 3 - jaw universal chuck, solid jaws, cast iron body Ø 160 mm (a) or Ø 200 mm (b)
- 3 - jaw universal chuck, solid jaws, steel body Ø 200 mm
- 4 - jaw independent chuck Ø 280 mm, ASA L0
- Automatic carriage disengagement, adjustable on 4 positions

Engine lathe – Tormax 30/30A/30B

Standard equipment

- 8 - position square tool post mounted on a rotating base
- Chip pan
- Chuck guard
- Control electric switch and safety system incorporated to the apron
- Electrical system for 220V 60Hz
- Foot operated single disc brake coupled to main motor
- Gap bed (TORMAX 30B, 2.25 m and 3.25 m between centers)
- Manual pump for bed and cross slide guideway lubrication
- Reduction sleeve for main spindle with MT-4 x 60° center
- Safety micro-switch in end gearing door
- Set of instruction manuals
- Set of leveling screws and nuts
- Set of wrenches for machine operation
- Spindle nose ASA L0 with Ø 50 mm through hole
- Standard colors: Munsell Blue 10B-3/4 and Gray RAL 7035
- Tailstock MT-4 x 60° center, with quill graduated in millimeters and inches
- Ø 52 mm through spindle (in place of standard)
- Camlock D1-6" spindle nose with Ø52 mm through hole (in place of standard)
- Complete coolant system
- Electrical equipment for 380 V or 440 V, 50 Hz
- Faceplate
- Follow rest with bronze tips, Ø 8 to Ø 50 mm diameter capacity
- Full length rear splash guard
- Graduated handwheel (mm) for apron
- Graduated handwheel (mm) for tailstock
- Live center MT-4
- Open sided rear tool post with fixed base (TORMAX 30)
- Safety device with switches on travel limits.
- Steady rest (open) with bronze tips, Ø 8 to Ø 80 mm capacity
- Steady rest (closed) with bronze tips, Ø 8 to Ø 80 mm capacity
 - Additional set of bronze tips, Ø 80 to Ø 152 mm capacity
 - Additional set of rollers, Ø 8 to Ø 80 mm capacity
 - Additional set of rollers, Ø 8 to Ø 152 mm capacity
- Steady rest with bronze tips, Ø 60 to Ø 205 mm capacity (TORMAX 30B)
 - Additional set of bronze tips, Ø 152 to Ø 305 mm capacity
 - Additional set of rollers, Ø 60 to Ø 205 mm capacity
 - Additional set of rollers, Ø 152 to Ø 305 mm capacity

- (c) Maximum speed 1,700 rpm
(d) Maximum speed 1,300 rpm

Accessories

- 3 - jaw universal chuck, solid jaws, cast iron body Ø 200 mm (c) or Ø 250 mm (d)
- 3 - jaw universal chuck solid jaws, steel body Ø 200 mm or Ø 250 mm
- 3 - jaw universal chuck, reversible jaws, steel body Ø 200 mm or Ø 250 mm
- 4 - jaw independent chuck, Ø 350 mm, ASA L0
- Adapter plate for universal chuck
- Automatic carriage disengagement, adjustable on 4 positions
- Bayonet type 6 (DIN 55027) spindle nose with

Engine lathe - Tormax 35/35A/35B

Standard equipment

- 8 - position square tool post mounted on a rotating base
- Chip pan
- Chuck guard
- Control electric switch and safety system incorporated to the apron
- Electrical system for 220V 60Hz
- Foot operated single disc brake coupled to main motor
- Gap bed (TORMAX 35A, 1.5 m and 2.0 m between centers)
- Manual pump for bed and cross slide guideway lubrication
- Reduction sleeve for main spindle with MT-4 x 60° center
- Safety micro-switch in end gearing door
- Set of instruction manuals
- Set of leveling screws and nuts
- Set of wrenches for operating machine
- Standard colors: Blue Munsell 10B-3/4 and Gray RAL 7035
- Tailstock MT-4 x 60° center, with quill graduated in millimeters and inches
- Bayonet type 8 (DIN 55027) spindle nose with Ø 78 mm through spindle (in place of standard)
- Camlock D1-8" spindle nose with Ø 78 mm through hole (in place of standard)
- Complete coolant system
- Electrical equipment for 380V or 440V, 50 Hz
- Faceplate
- Follow rest with bronze tips, Ø 8 to Ø 50 mm capacity
- Full length rear splash guard
- Graduated handwheel (mm) for apron
- Graduated handwheel (mm) for tailstock
- Live center MT-4
- Open sided rear tool post with fixed base (TORMAX 35)
- Safety device with switches on travel limits. (1.0 m) (TORMAX 35)
- Steady rest (open) with bronze tips, Ø 8 to Ø 80 mm capacity
- Steady rest (closed) with bronze tips, Ø 8 to Ø 80 mm capacity
 - Additional set of bronze tips, Ø 80 to Ø 152 mm capacity
 - Additional set of rollers, Ø 8 to Ø 80 mm capacity
 - Additional set of rollers, Ø 8 to 152 mm capacity
- Steady rest with bronze tips, Ø 60 to Ø 205 mm capacity (TORMAX 35B)
 - Additional set of bronze tips, Ø 152 to Ø 305 mm capacity
 - Additional set of rollers, Ø 60 to Ø 205 mm capacity
 - Additional set of rollers, Ø 152 to Ø 305 mm capacity
- Taper turning attachment 350 mm turning length, 15° maximum angle
- Thread chasing dial
- Worklight attachment

- (e) Maximum speed 1,700 rpm
(f) Maximum speed 1,300 rpm

Accessories

- 3 - jaw universal chuck, solid jaws, cast iron body Ø 200 mm (e) or Ø 250 mm (f)
- 3 - jaw universal chuck, solid jaws, steel body Ø 200 mm or Ø 250 mm
- 3 - jaw universal chuck, reversible jaws, steel body Ø 200 mm or Ø 250 mm
- 4 - jaw independent chuck ASA L1 Ø 400 mm
- 4 - jaw independent chuck ASA L1 Ø 500 mm (TORMAX 35A and TORMAX 35B)
- Adapter plate for universal chuck
- Automatic carriage disengagement, adjustable on 4 positions (TORMAX 35/35A/35B)
- Automatic cross feed disengagement (TORMAX 35)

Engine lathe - ES-40/40A/40B

Standard equipment

- 4 - position square tool post mounted on a rotating base (ES-40 and 40A)
- 8 - position square tool post (ES-40B)
- Electrical system for 220V, 60Hz
- Electromagnetic clutches for starting, reversing and braking
- Rear chip guard (ES-40) with 1.0 m and 1.5 m between centers
- Reduction sleeve for main spindle with 60° center
- Set of instruction manuals
- Set of leveling screws and nuts
- Set of wrenches for operating machine
- Standard colors: Blue Munsell 10B-3/4 and Gray RAL 7035
- Tailstock MT-5 x 60° center, with quill graduated in millimeters and inches
- Bayonet type 8 (DIN 55027) spindle nose with Ø 78 mm through spindle (in place of standard)
- Camlock D1-11" spindle nose with Ø104 mm through hole (in place of standard) (ES40)
- Camlock D1-11" spindle nose with Ø104 mm through hole (in place of standard) (ES40A)
- Camlock D1-8" spindle nose with Ø 78 mm through hole (in place of standard) (ES40)
- Complete coolant system
- Drive plate Ø 280 mm Camlock D1-8"
- Drive plate Ø 380 mm Camlock D1-11" (ES-40 and ES-40A)
- Electrical equipment for 380 V or 440 V, 50 Hz
- Faceplate
- Follow rest with bronze tips, Ø 12 to Ø 105 mm capacity
- Graduated handwheel (mm) for apron
- Graduated handwheel (mm) for tailstock
- Live center MT-5
- Open sided rear tool post with fixed base (ES-40 and ES-40A)
- Steady rest with bronze tips, Ø12 to Ø 150 mm capacity
- Steady rest with rollers, Ø 12 to Ø 150 mm capacity
- Swivel base for 8 positions square tool post (ES-40 and ES-40A)
- Taper turning attachment 400 mm turning length, 12° maximum angle
- Thread chasing dial
- T-slotted faceplate Ø 500 mm Camlock D1-8"
- Worklight attachment

Accessories

- 3 - jaw universal chuck, reversible jaws, steel body Ø 250 mm, Ø 315 mm or Ø 400 mm
- 3 - jaw universal chuck, solid jaws, cast iron body Ø 250 mm
- 3 - jaw universal chuck, solid jaws, steel body Ø 315 mm or Ø 400 mm
- 4 - jaw independent chuck, Ø 400 mm (ES-40), Ø 500 mm (ES-40A) and Ø 600 mm (ES-40B)
- 8 - position square tool post (in place of Prismatic 4 position) (ES-40 and ES-40A)
- Adapter plate for universal chuck
- Air operated tailstock quill (in place of standard) (ES-40 and ES-40A)
- Apron with disengagement for longitudinal and cross feeds. Four-way power rapid traverse

Technical Specifications		Tormax 20		Tormax 20A		Tormax 30	Tormax 30A	Tormax 30B
Capacity								
Centers height	mm	165		205		205	260	325
Distance between centers	m	0.5 / 1.0		0.5 / 1.0 / 1.5		0.5 / 1.0 / 1.5	1.0 / 1.5 / 2.25	1.5 / 2.25 / 3.25
Swing over bed	mm	325		405		420	520	660
Swing over saddle wings	mm	290		365		370	450	595
Swing over cross slide	mm	185		265		230	350	500
Swing through gap (A)	mm	-		-		-	705	855
Length of gap in front of chuck (A)	mm	-		-		-	220	220
Cross slide travel	mm	200		235		240	300	350
Tool post carriage travel	mm	100		100		120	120	120
Tool section	mm	20 x 20		20 x 20		20 x 20	20 x 20	20 x 20
Bed								
Width	mm	225	225	225		305	305	305
Height	mm	270	270	270		334	334	334
Headstock								
Spindle nose	ASA	L0	L0	L0		L0	L0	L0
Spindle hole diameter	mm	40	40	40		50	50	50
Spindle taper hole degrees	graus	1° 26'	1° 26'	1° 26'		1° 26'	1° 26'	1° 26'
Reduction sleeve taper hole	MT	3	3	3		4	4	4
Spindle diameter at front bearing	mm	66.67	66.67	66.67		83	83	83
Number of speeds		12	12	12		20	20	20
Speed ranges	rpm	50 to 2,500	50 to 2,500	50 to 2,500		45 to 2,240	35.5 to 1,800	28 to 1,400
Gearbox threads and feeds								
Longitudinal feeds	mm / rot	(20) 0.042 to 0.730					(288) 0.048 to 8.654	
Cross feeds	mm / rot	(20) 0.019 to 0.330					(288) 0.022 to 3.900	
Inch threads	tpi	(46)	42 to 4			(145)	42 to 0.5	
Metric threads	mm	(46)	0.4 to 7			(144)	0.4 to 56	
Module threads	Mod	(46)	0.1 to 1.75			(144)	0.1 to 14	
Diametral Pitch threads	DP	(46)	168 to 16			(144)	168 to 2	
Leadscrew	tpi	4					4	
Tailstock								
Quill travel	mm	120					125	
Quill diameter	mm	44					50	
Quill taper	MT	3					4	
Motors								
Main motor	hp	5					7.5	
Coolant pump (D)	hp	0.125					0.125	
Clutch lubricating pump	hp							
Radiator fan motor	hp							
Dimension and weight (approximate)								
Floor space required	mm	1,000		1,000		1,000	1,000	1,500
Floor space required	mm	2,010 x 930		2,010 x 930		2,250 x 1,050	2,250 x 1,050	2,790 x 1,200
Net weight	kg	1,145		1,170		1,750	1,800	2,050
Additional weight for each 500 mm increment	kg	200		200		280	280	280

(A) Tormax 20, 30 with 0.5 / 1.0 / 1.5 m between centers and Tormax 30A with 1.0 m between centers are not provided with gap.

Tormax 30B with 2.25 and 3.25 m between centers are provided with gap as standard equipment.

Tormax 30A with 1.5 and 2.25 m between centers and Tormax 30B with 1.5 m between centers may be supplied with gap as optional equipment upon request.

Tormax 35, Tormax 35B and ES-40 are not provided with gap.

Tormax 35A with 1.5 and 2 m between centers are provided with gap as standard equipment.

ES-40A / ES-40B as an option and at extra cost may be provided with a gap bed and bridge

Tormax 35	Tormax 35A	Tormax 35B	ES-40	ES-40A	ES-40B
250	335	410	250	325	420
1.0 / 1.5 / 2.0	1.5 / 2.0 / 3.0	3.0	1 / 1.5 / 2 / 3 / 4	1 / 1.5 / 2 / 3 / 4	1 / 1.5 / 2 / 3 / 4 / 5
515	660	800	510	650	815
475	605	745	480	600	750
330	510	650	305	450	640
-	860	-	-	880	1,080
-	260	-	-	260	260
305	375	375	280	360	450
125	125	125	150	150	190
25 x 25	25 x 25	25 x 25	32 x 32	32 x 32	32 x 32
340	340	340	380	380	380
320	320	320	380	380	380
L1	L1	L1	L1	L1	L1
58	58	58	65 (B)	65 (B)	65
1° 26'	1° 26'	1° 26'	1° 26'	1° 26'	1° 26'
4	4	4	5	5	5
100	100	100	110 (B)	110 (B)	110
12	12	12	18	18	18
25 to 2,000	19 to 1,500	16 to 1,250	31.5 to 2,360 (B)	22.4 to 1,700 (B)	16 to 1,180
	(192) 0.047 to 8.336			(192) 0.046 to 8.224 (C)	
	(192) 0.023 to 4.158			(192) 0.022 to 3.984 (C)	
	(97) 42 to 0.5			(97) 42 to 0.5	
	(96) 0.4 to 56			(96) 0.4 to 56	
	(96) 0.1 to 14			(96) 0.1 to 14	
	(96) 168 to 2			(96) 168 to 2	
	4			4	
	170			200	
	56.5			88	
	4			5	
10	10	7.5		15	
0.125	0.125	0.125		0.125	
				0.5	
				0.33	
1,000	1,500	3,000	1,000	1,000	1,000
2,600 x 1,100	3,100 x 1,100	4,600 x 1,100	3,020 x 1,300	3,020 x 1,300	3,020 x 1,550
1,800	1,950	2,600	2,800	3,000	3,200
300	300	300	500	500	500

(B) (ES-40 / ES-40A) As an option and at extra cost may be provided with: Spindle with Ø 104 mm hole, Cam Lock D1-11 nose, spindle diameter at front bearing 140 mm and 18 speeds from 22.4 to 1,180 rpm.

(C) (ES-40 / ES-40A) When equipped with four-way rapid traverse apron, longitudinal feeds are from 0.049 to 8.874 mm / rot and cross feeds from 0.017 to 3.005 mm/rot.

(D) Optional at extra cost.



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