

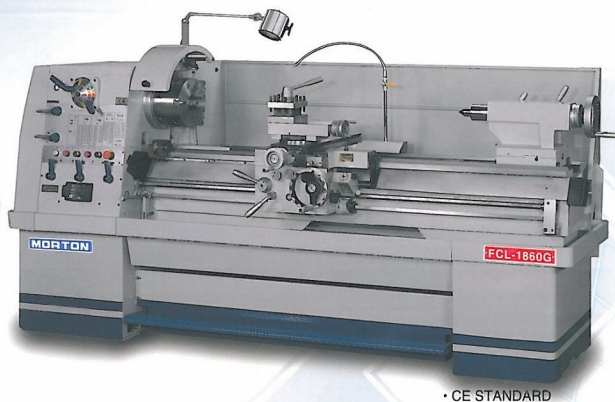
MORTON®

PRECISION HIGH SPEED ENGINE LATHE

PRECISION AC VARIABLE SPEED LATHE

FCL-1840/1860/1880/18120G FCL-2140/2160/2180/21120G

FCL-1840/1860/1880/18120EVS FCL-2140/2160/2180/21120EVS



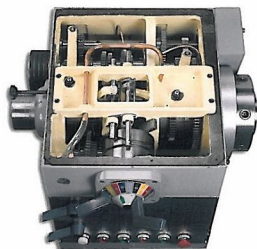
• CE STANDARD



THE LEADER IN QUALITY AND RELIABILITY

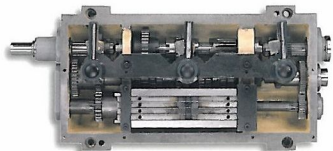
~ SINCE 1973 ~

HEAVY DUTY SPINDLE



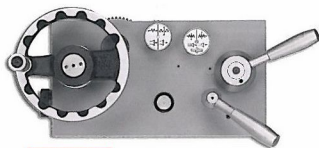
HEAD STOCK

- Dynamic balanced spindle.
- Spindle is supported by 3 points precision bearings-2 taper roller and 1 Ball bearing.
- Housing are properly stabilized and deflection free.
- All gears and shafts are made by Chromium molybdenum steel with segmentation and precision ground.
- Build in mechanism clutches made by British Matrix.
- Forced lubrication system.
- Nylon safety gears in end train.



UNIVERSAL GEAR BOX

- Induction hardened and ground gears and shafts.
- Wide threads cutting capacity for imperial, metric, module pitch and diametrical pitch.



APRON

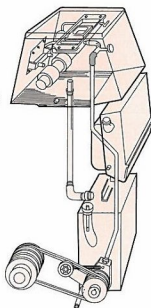
- Right hand side or left-hand size apron hand-wheel available as required.
- Integrated automatic device for longitudinal & cross feeds, forward and reverse feeds.
- Overload safety device.

BED

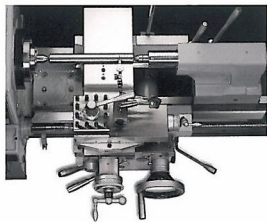


- Bed Meehanite casting, vibration stress relieved.
- Induction hardened and precision ground bed ways.
- Precision hand scraped removable gap bed.
- Foot brake.
- Turcite B coating between the bed and carriage.

LUBRICATOR



- Oil sight window for efficient checking oil action.
- Headstock pressure lubrication system ensure its lubricated and cooling for high speed operations.
- Lubrication in gearbox & apron.
- External oil tank lowering the oil temperature, it helps the spindle running temperature.



CARRIAGE & SLIDE

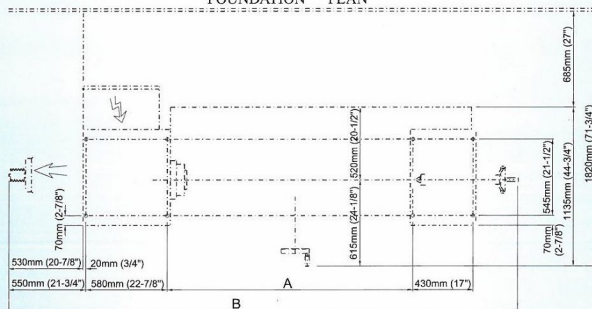
- Anti-float design, backlash eliminator fitted in cross slide nut.
- Safety clutches at feed shaft lever.
- Dual reading dials.
- One shut lubrication for carriage and tops slide.

HEAVEY DUTY PRECISION ENGINE LATHE

MODEL		FCL-1840 / 1860 / 1880 / 18120G	FCL-2140 / 2160 / 2180 / 21120G	FCL-1840 / 1860 / 1880 / 18120EVS	FCL-2140 / 2160 / 2180 / 21120EVS
Capacity	Height of centers	230mm (9.055")	271mm (10.67")	230mm (9.055")	271mm (10.67")
	Swing over bed	φ 460mm (18.11")	φ 533mm (20.98")	φ 460mm (18.11")	φ 533mm (20.98")
	Swing in gap	φ 710mm (27.95")	φ 790mm (31.10")	φ 710mm (27.95")	φ 790mm (31.10")
	Swing over cross slide	φ 280mm (11.02")	φ 356mm (14.01")	φ 280mm (11.02")	φ 356mm (14.01")
	Distance between centers	1000mm (40") 1500mm (60") 2000mm (80")	1020mm (40") 1500mm (60") 2000mm (80") 3000mm (120")	1000mm (40") 1500mm (60") 2000mm (80")	1000mm (40") 1500mm (60") 2000mm (80") 3000mm (120")
	Width of bed	345mm (13.58")			
Headstock & Main spindle	Gap width in front of faceplate	255mm (10")			
	Spindle nose, Internal taper	D1-8 , MT.No.7			
	Spindle center sleeve	MT. No.7 x MT. No.5			
	Spindle bore	φ 80mm (3.149")			
Spindle speed:	Gear steps	16 steps / 20 ~ 1600 R.P.M. Green 20 ~ 65 210 ~ 670 Yellow 25 ~ 85 280 ~ 900 Red 35 ~ 115 380 ~ 1200 Blue 50 ~ 150 500 ~ 1600 "MATRIX" Disc clutch Forward/Reverse		4 steps	L 18 ~ 55 R.P.M. M 55 ~ 180 R.P.M. MH 180 ~ 600 R.P.M. H 600 ~ 1800 R.P.M.
	Range	Infinitely variable			
Carriage	Length on bed / Width of carriage	543mm (21.37") / 542mm (21.33")			
	Cross slide travel	280mm (11.02")			
	Top slide travel	137mm (5.39")			
Threads & Feeds	Whitworth threads:	Kinds / Range		45 Kinds /	2 ~ 72 T.P.I.
	Metric threads:	Kinds / Range		39 Kinds /	0.2 ~ 14mm
	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	φ 76mm (2.322")			
	Quill travel	165mm (6.5")			
	Taper of center	MT. No.5			
Motor	Main spindle	7.5kw (10HP)	9.3kw (12.5HP)	AC 9.375kW (12.5HP),Inverter	
	Forced lubrication for HD.	— — — —		1/4HP	
Measurement	Coolant pump	1/8HP			
	Weight (Net / Gross) Approx.		2000kgs (4408 lbs) 2350kgs (5180 lbs) 2700kgs (5950 lbs) 3300kgs (7290 lbs) 3500kgs (7716 lbs) 3700kgs (8159 lbs) 3000kgs (6610 lbs) 3100kgs (6830 lbs) 3400kgs (7490 lbs) 4200kgs (9256 lbs) 2500kgs (5510 lbs) 2600kgs (5740 lbs) 2700kgs (5950 lbs) 3000kgs (6610 lbs) 3100kgs (6830 lbs) 3400kgs (7490 lbs) 4200kgs (9256 lbs)		
	Packing sizes	Length	2535mm (99.8") 3035mm (119.5") 3535mm (139.2") 355mm (13.92") 3535mm (139.2") 4535mm (178.6")		
		Width x Height	Width 1120mm (44.1") x Height 1745mm (68.7")		

•We reserve the right to modify and improve above specification without notice.

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FOUNDATION PLAN


MODEL	A	B
FCL - 1840 , FCL - 2140 FCL - 1840G , FCL - 2140G	1250 mm (49")	3130 mm (123")
FCL - 1860 , FCL - 2160 FCL - 1860G , FCL - 2160G	1750 mm (69")	3630 mm (143")
FCL - 1880 , FCL - 2180 FCL - 1880G , FCL - 2180G	2250 mm (88")	4130 mm (163")

STANDARD ACCESSORIES

- ▶ Main motor.
- ▶ Coolant system.
- ▶ Chip and coolant tray.
- ▶ Back plate for chuck.
- ▶ 4-way tool post.
- ▶ Two centers.
- ▶ Center sleeve.
- ▶ Tools and toolbox.
- ▶ Leveling pad-8 pcs.
- ▶ Halogen work lamp.
- ▶ Emergency stop switch.
- ▶ Steady rest w/ball bearing.
- ▶ Follow rest w/bronze tip.
- ▶ Face plate 40mm (16").
- ▶ Operational manual and spare parts list.
- ▶ Full length splash guard.

OPTIONAL ACCESSORIES

- ▶ 3 jaws scroll chuck 250mm/315mm (10"/ 12").
- ▶ 4 jaws scroll chuck 250mm (10").
- ▶ 4 jaws independent chuck-350mm/400mm (14"/ 16").
- ▶ 5C collet closer attachment.
- ▶ 5C collets (metric and imperial).
- ▶ Driving plate with dog.
- ▶ Carbide tipped center MT No.5
- ▶ Live center MT No.5
- ▶ Inter-changeable insert live center MT No.5
- ▶ Bull nose live center MT No.5
- ▶ 16mm (5/8") drill chuck with key and chuck arbor.
- ▶ 16mm (5/8") keyless drill chuck and chuck arbor.
- ▶ Micro carriage stop.
- ▶ Turret type carriage stopper.
- ▶ Quick change tool post.
- ▶ Taper turning attachment.
- ▶ Tool post gridner.
- ▶ Digital readout system.
- ▶ Chuck safet guard.
- ▶ CE norms.
- ▶ Special forward & reverse leadscrew for FCL-2100 series on request.

FREJO TH INTERNATIONAL LTD.

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