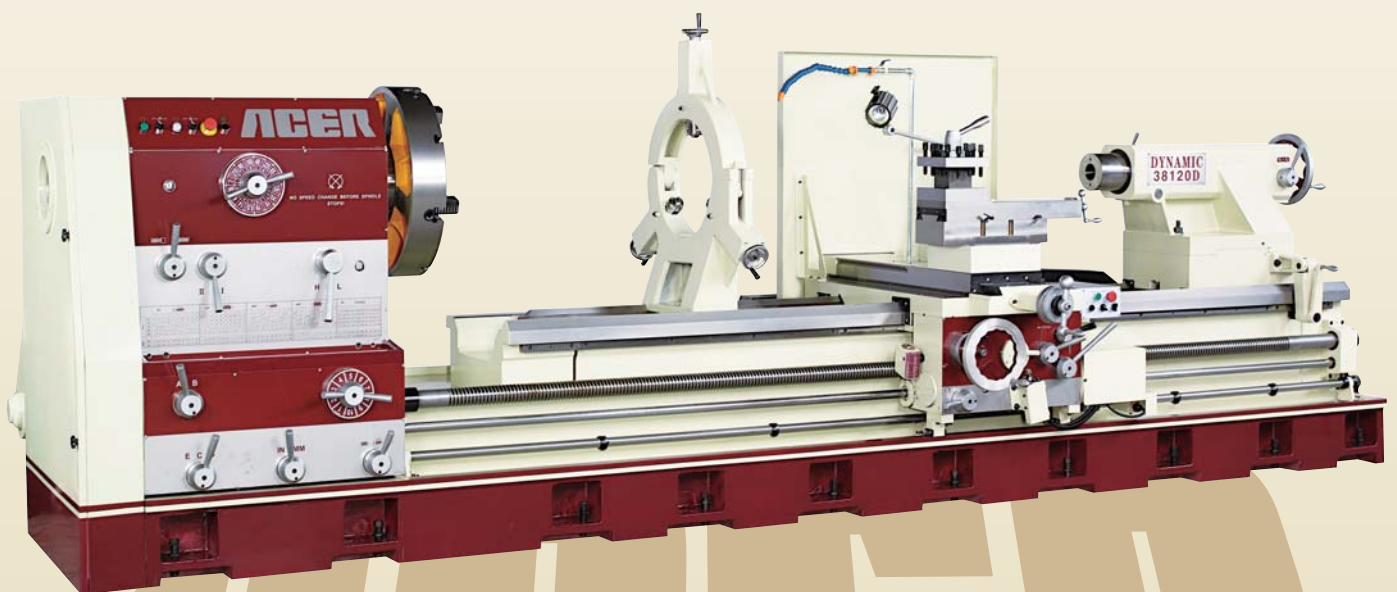


# ACER

Heavy Duty Engine Lathe

## Dynamic 38" ~50" Series Lathe

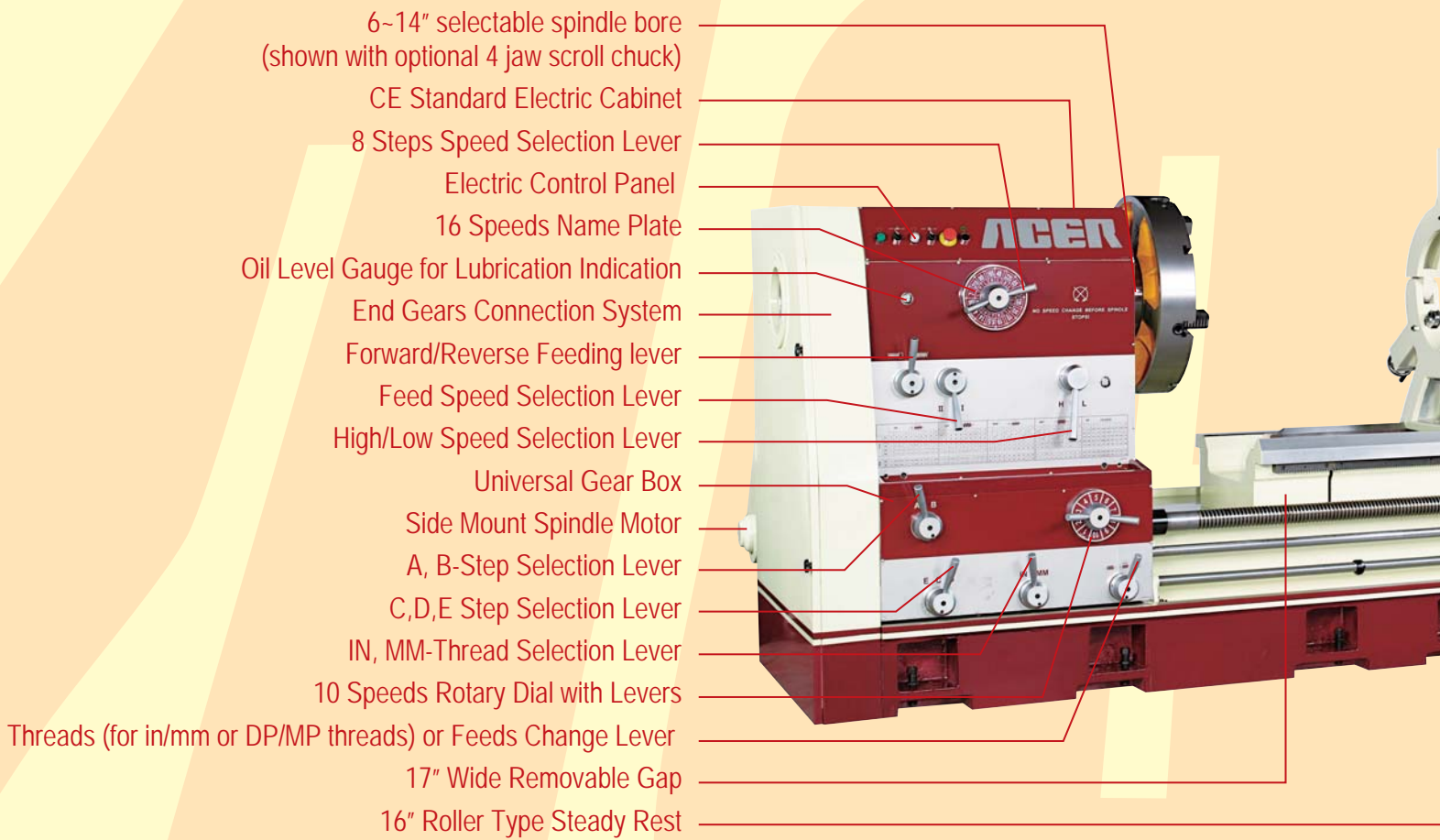
The New Standard in Oil Country Lathe.....



**Technology | Creativity | Reliability**

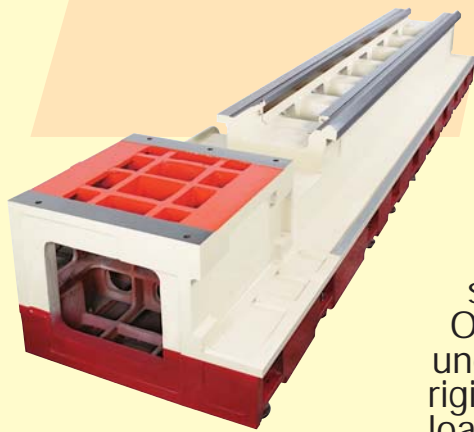
**An Unswerving Commitment to Excellence**

# Main Structure



- 6~14" selectable spindle bore (shown with optional 4 jaw scroll chuck)
- CE Standard Electric Cabinet
- 8 Steps Speed Selection Lever
- Electric Control Panel
- 16 Speeds Name Plate
- Oil Level Gauge for Lubrication Indication
- End Gears Connection System
- Forward/Reverse Feeding lever
- Feed Speed Selection Lever
- High/Low Speed Selection Lever
- Universal Gear Box
- Side Mount Spindle Motor
- A, B-Step Selection Lever
- C,D,E Step Selection Lever
- IN, MM-Thread Selection Lever
- 10 Speeds Rotary Dial with Levers
- Threads (for in/mm or DP/MP threads) or Feeds Change Lever
- 17" Wide Removable Gap
- 16" Roller Type Steady Rest

## *Machine Base and its Bed*



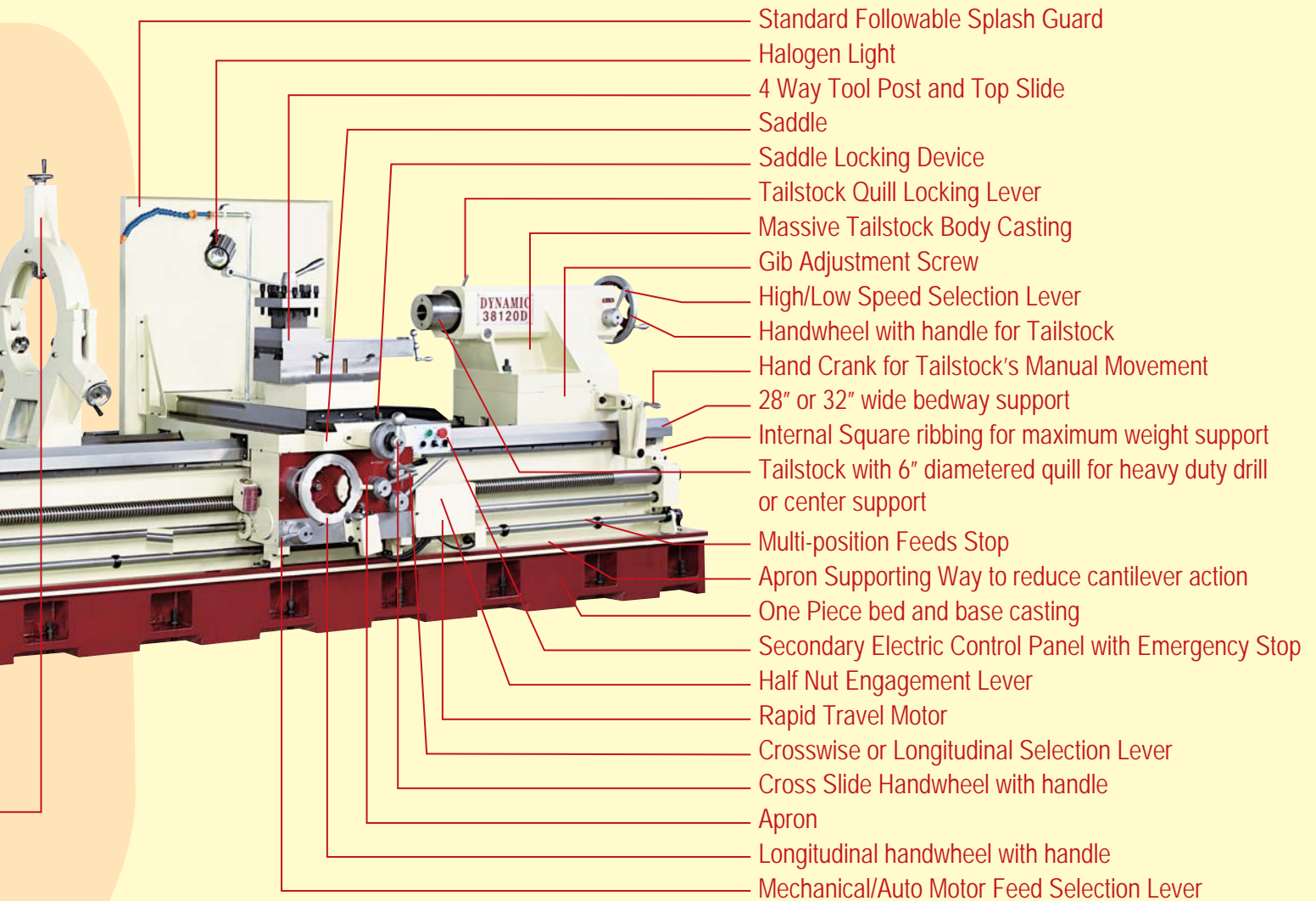
Machine base and its bed ways have box type ribbing system combines with three length-wise longitudinal ribs under the slideways to ensure rigidity and stability during large-diameter turning. One-piece casting of bed ways and base from FC 30 allow for evenly weight distribution thru out the leveling screws and reduces vibration during heavy cutting. Outside mount spindle motor allows for more box ribs under the headstock. This design increase headstock's rigidity during cutting and reduces vibrations when heavy loading. Wider bed ways and a third guide way for apron support allow the combined weight of saddle, cross-slide and apron to distributed evenly and it also eliminates cantilever effect on the saddle movement.

## *Tailstock*

With an enlarged 6" diameter quill, graduated in both inch and metric unit, is made from high tensile steel that is hardened to HRC 55 and ground to 1/10000" per 6". This newly designed quill combined with wider base and body will ensure rigidity and stability during all cutting conditions. A key way lock prevents rotation of the tailstock under heavy drilling. The positioning of the tailstock is made by turning the crank and pinion or power feed of the saddle (option), and when the position needs to be locked, a three-point locking mechanism will prevent it from slipping. A gear change box makes sure tailstock can do both fine drilling and rapid positioning.

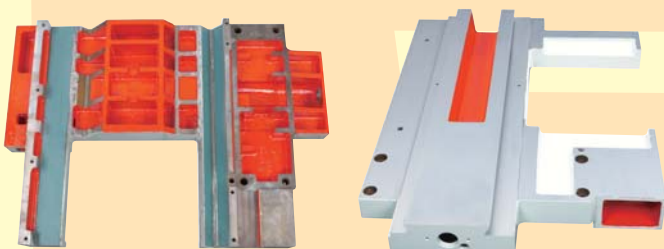


# Main Structure



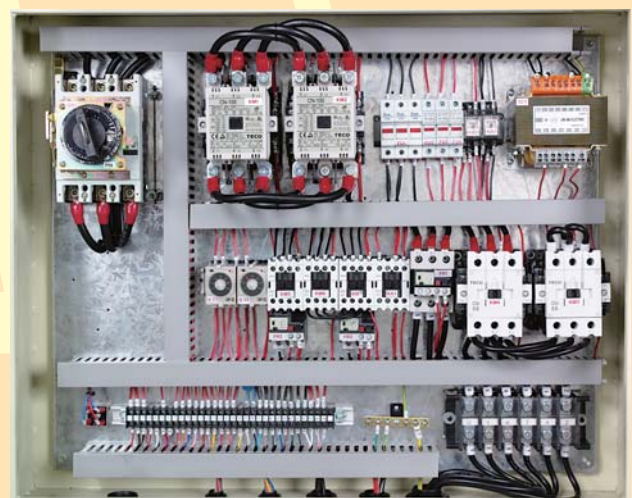
## Saddle

Heavy ribbed saddle is casted from FC30 material and it is annealed to resist any twisting of the piece. With TURCITE-B laminated slideways at 32.5' bearing length and forced lubrication design, the repetitious accuracy of the longitudinal movement is maintained and controlled within 8/10000". On the top side of the saddle's guide ways, they are hardened up to 52HRC and grounded to be within 4/10000" per 12". This design ensures long term motion accuracy when cross slide is also coated with TURCITE-B and scraped to maximum accuracy of 4/10000" per 12".



## Electric Cabinet

The CE standard cabinet is laid out simply for easy maintenance or repair. The 24V control circuit design minimizes the risk of electric shock. Start-up of the machine occurs in two stages with the full torque being reached in 30 seconds. The stop button activates an electro-magnetic brake to stop the spindle turning. The longer the button is pressed, the faster the spindle will stop.



# Main Structure

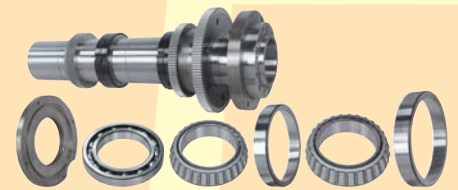


## Headstock

Thick walls and heavily ribbed headstock is the key to rigidity and durability of the machine. This casting is made from FC 30 and prolonged anneal to the reduce stress and deformation of the casting. Front and center casting for taper roller bearings are radial ribbed to endure cutting stress and spindle movement when under heavy cutting. With a third roller type bearing at the end, the three point support design is well suitable for cutting items with large diameter and long slender shafts. Precision ground gears and shafts are made from nickel-chrome molybdenum alloy steel (SNCM21) and treated with carbonation procedure. Turbine type 16 spindle speed-change mechanism allows for precise speed selection and position lock, thus no more jumping of spindle speed. Internal lube pump ensures gears, bearings and shafts are properly lubricated. This will lower headstock's temperature, reduce noise level and prolong life-span of the indicated items.

## Spindle

Two FAG or FAG-equal taper roller bearings locked by two double lock-nut design and a third roller type bearing support are the key to withstand heavy cutting and low production noise. The spindle is forged from high carbon medium steel (SF45), and induction hardened & ground to its specified accuracy. The loading capacity of the spindle and tailstock without center support is rated maximum at 11,000 lbs (Note: Only when chuck is on spindle and dead center on tailstock). As the bed length gets longer the capacity is larger. The sizes of the spindle bore ranges from 6" to 14". Other sizes upon request!

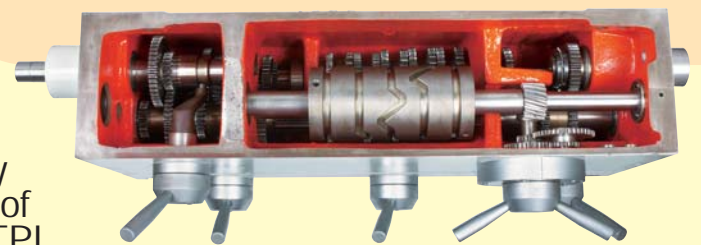


## Gear Box

The top covered gear box is a one-piece FC 30 casting machined to its final accuracy. Its uniquely designed gears offer a comprehensive range of metric and inch threads without the need to change transposing gears, thus increasing the efficiency of the production. The cutting threads of metric and inch are 1-120mm and 1/4-30TPI.

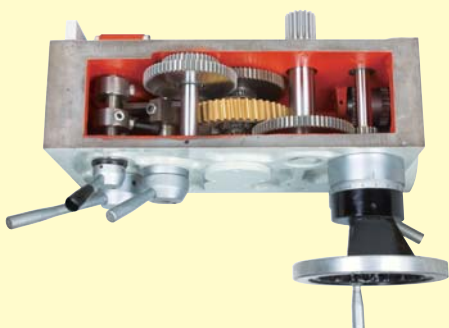
To select the desired thread or feed, a combination of 4 levers and a rotary dial are used.

The oil bathed gears are made from medium carbon steel (S45C), and are hardened and grounded to specified accuracy. A side oil gauge is provided for easy viewing of the oil level from the working position. When oil level is below the low line, please add more specified lubricant.



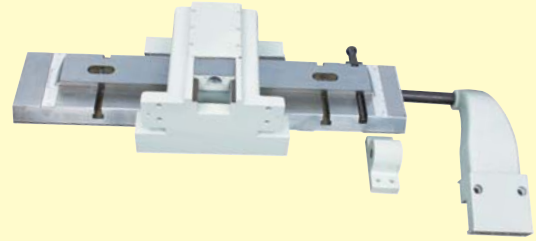
## Apron

The high-graded casting apron has a safety interlocking device to prevent simultaneous engagement of both automatic threading and feeding. It is intended to avoid damage to the S45C material gears which are normally grounded within 1/10,000" per tooth. Feeding and threading direction of the apron is easily controlled by a lever. A tunable knob for the lube pump allows for selection of lubrication area—only the apron, only the saddle and apron or only bedways and apron. One distinction lever controls six motions—automatic feeding and rapid feeds' direction—saddle's left/right, cross slide's in/out, and tool post's in/out.



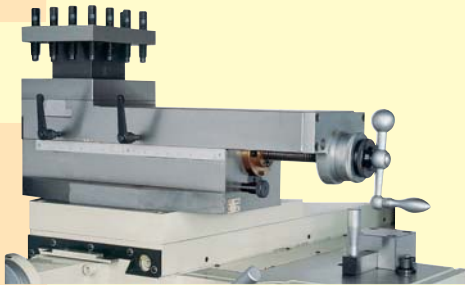
## Telescopic Taper Turning Attachment

A taper turning attachment allows customers to cut taper length of 17 3/4" with a travel of 19 7/10". The attachment's slideways are made from FC 25 casting and are hardened and ground, and will not deform or become damaged under heavy use.



## Automated Tool Post

One of the options on the lathe is an automated powered tool post. By selecting the proper apron lever and tool post's engagement knob, the tool post will power automatically and at the same time, allow it to swivel 360 degrees. This unique design permits the mechanically powered tool post to perform oblique cutting at different angle.



## ACER Standard

	Swing over	Swing over
	30"	50"
1. Spindle center run-out	0.0004"	0.0006"
2. Cam action of spindle	0.0004"	0.0006"
3. Spindle taper run-out (front at 0" position)	0.0006"	0.0006"
(front at 12" position)	0.0012"	0.0012"
4. Headstock alignment		
Vertical	0.0012/12"	0.0012/12"
Horizontal	0.0008/12"	0.0008/12"
5. Saddle way alignment	0.0006/40"	0.0006/40"
6. Cross slide alignment	0.0006/12"	0.0006/12"

## Standard Accessories

One 16" Steady Rest	CE Standard 24V Electric Control
One Follow Rest	X, Z Rapid Travel & Auto Lube System
Tools with Tool Box	Halogen Light
Operation Manual with Part List	Electromagnetic Brake System
Coolant System with External Tank	
Followable Splash Guard	
Multi-position Feeds Stop	

# Optional Accessories

## Optional Accessories



**Rotating Tailstock Spindle**  
With this modification, it allows tailstock's spindle to rotate, add a scroll chuck or taking a heavier load.



**Grinding Attachment**



**Combo-face plate with four jaws** from 32"~60" in diameter



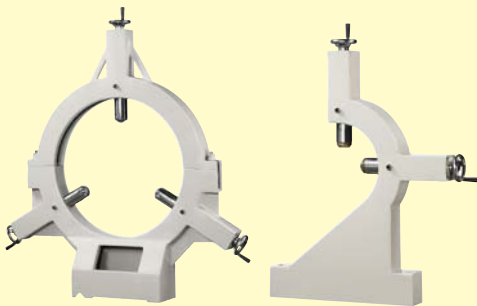
**Jaw Installing Tailstock**



**Hydraulic four Position Turret**



**Milling Attachment**



**Steady Rest/ Follow Rest**



**Drilling Attachment**



**Coolant Collecting Tank**

# Specifications

UNIT: mm / inch

ITEM / MODEL / WIDTH OF BED 24" (610)		Dynamic 38" D		Dynamic 44" D		Dynamic 50" D			
ITEM / MODEL / WIDTH OF BED 32" (810)		Dynamic 38" DH		Dynamic 44" DH		Dynamic 50" DH			
MODEL		80D/DH	120D/DH	160D/DH	200D/DH	240D/DH	280D/DH	320D/DH	
CAPACITY	Swing over bed	960 (37.8")		1120 (44")		1280 (50")			
	Swing over cross slide	D- 650 (25.6") / DH-550 (21.65")		D-810 (32") / DH - 710 (27.95")		D-970 (38.19") / DH - 870 (34.24")			
	Distance between centers	2000(80")	3000(120")	4000(160")	5000 (200")	6000(240")	7000 (280")	8000 (315")	
BED	Swing over gap	D-1390 (54.72") / DH-1240(48.82.)		D-1550 (61.02") /DH-1400		D-1710 (67.33") / DH - 1560 (61.42")			
	Width of bed	D-610 (24") / DH-810 (32")							
	Width of gap (from spindle to end face)	D- 570 (22.44") / DH-784 (30.87")							
	Actual turning diameter changed by different chuck size								
	Length of bed - D	3900(153.55")	4900 (192.92")	5900 (232.29")	6900 (2721.66")	7900 (311.03")	8900 (350.4")	9900 (389.76")	
Length of bed - DH	4390(172.84")	5390 (212.21")	6390 (251.58")	7390 (290.95")	8390 (330.32")	9390 (369.69")	10390 (409.06")		
HEADSTOCK	Spindle bore diameter	ø 152 (6")		OP: ø230 (9")		OP: ø305 (12")			
	Spindle nose	A2-11 / OP: A2-15		A2-15 / OP: A2-20		A2-20			
	Numbered of spindle speeds	16 speeds			12 speeds				
	Range of spindle speeds	4-420 r.p.m.			7-266 r.p.m.				
Taper of spindle		M.T.#6							
CARRIAGE	Width of carriage	D-800 (31.50") / DH - 880 (34.65")							
	Cross slide travel	D- 600 (23.60") / DH- 700 (27.56")							
	Compound rest travel	D- 370 (14.57") / DH - 400 (15.75")							
	Max. size cutting size	40x40 (1.57"x1.57")							
TAILSTOCK	Diameter of barrel	D- 150 (5.91") / DH - 150 (5.91") OP: 200 (7.88")							
	Travel of barrel	305 (12")							
	Taper of barrel	M.T.#6							
THREADS	Lead screw diameter & pitch	Dia.60mm, Pitch: 12mm / Dia.2.36" X 2 T.P.I.							
	Range of metric pitches	1 -120mm (62 Nos)							
	Range of inch pitches	0.25-30T.P.I. (70Nos)							
	Diametrical pitches	1-120 D.P. (70Nos)							
	Range of module pitches	0.25 -30 M.P. (53Nos)							
FEEDS	Feed rod diameter	32 (1.26")							
	Range of longitudinal feeds	0.06-7.04 mm/rev (0.0024"-0.28" in/rev)							
	Range of cross feeds	0.03-3.52 mm/rev (0.0012"-0.14" in/rev)							
MOTOR	Main spindle motor	40HP							
	Coolant pump motor	1/8HP (0.1kw)							
	Rapid motor	1HP (0.75w)							
Measurement for D series	N.W. /GW (aprox) Kgs-38"	8000/8800	9000/9900	10000/11000	11000/12100	12000/13200	13000/14300	14000/15400	
	N.W. /GW (aprox) Kgs-44"	8300/9100	9300/10200	10300/11300	11300/12400	12300/13500	13300/14600	14300/15700	
	N.W. /GW (aprox) Kgs-50"	8600/9400	9600/10500	10600/11600	11600/12700	12600/13800	13600/14900	14600/16000	
	Machine size (LxWxH)	[L]: 4100 / 5100 / 6100 / 7100 / 8100 / 9100 / 10100 x [W] 2050 x [H] 1460 mm ( D-38") / 1540 (D-44") / 1620 (D-50") [L] 161" / 201" / 240" / 280" /319" / 358" / 398" x [W] 81" x [H] 58" (D-38") / 61" (D-44") / 64" (D-50")							
Packing Dimension (LxWxH)	L: 4600 / 5600 / 6600 / 7600 / 8600 / 9600 / 10600 x (W) 2030 x (H) 2200 mm (L) 181" / 220" / 260" / 299" /339" / 378" / 417" x [W] 80" x [H] 86"								
Measurement for DH series	N.W. /GW (aprox) Kgs-38"	9700/10600	10800/11800	11900/13000	13000/14200	14100/15400	15200/16600	16300/17800	
	N.W. /GW (aprox) Kgs-44"	10000/10900	11100/12100	12200/13300	13300/14500	14400/15700	15500/16900	16600/18100	
	N.W. /GW (aprox) Kgs-50"	10300/11300	11400/12500	12500/13700	13600/14900	14700/16100	15800/17300	16900/18500	
	Machine size (LxWxH)	[L]: 4740 / 5740 / 6740 / 7740 / 8740 / 9740 / 10740 x [W] 2170 x [H] 1510( DH-38") / 1590(DH-44")/ 1670 (DH-50") [L] 187" / 226" / 265" / 305" /344" / 383" / 423" x [W] 85" x [H] 60" (DH-38") / 63" (DH-44") /66" (DH-50")							
Packing Dimension (LxWxH)	[L]: 5100 / 6100 / 7100 / 8100 / 9100 / 10100 / 11100 x [W] 2140 x [H] 2300 mm (L) 201" / 240" / 280" / 319" /359" / 398" / 437" x [W] 84" x [H] 91"								

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of machine without notice. All the specifications shown above are for reference only.

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SPRINGWOOD INDUSTRIAL, INC. KLIM INDUSTRIAL, INC.

1062 N. Kraemer Place

Anaheim, CA 92806

Tel: (714) 632-9701

Fax: (714) 632-9730

E-mail: [info@aceronline.net](mailto:info@aceronline.net)

244 N. Randolphville Rd.

Piscataway, NJ 08854

Tel: (732) 752-9100

Fax: (732)-752-9101

E-mail: [acer\\_klim@yahoo.com](mailto:acer_klim@yahoo.com)

YA GIN MACHINE TOOL MANUFACTURING INC.

No. 101, 506 Lane, Seng-Tso Rd.,

Seng-Karng District, Taichung City, Taiwan

Tel: (01) 886-4-25204120

Fax: (01) 886-4-25204123

E-mail: [sales@acerlinks.com](mailto:sales@acerlinks.com)