

*HIGH CAPACITY, HEAVY DUTY CNC TURNING MACHINES*  
***DYNATURN Series***

***DYNATURN-1100/1300/1500/1700***



# **DYNATURN** 11/13/15/17

*This Machine is Tough Enough for Machining "Hard Rolls" for Steel Mills.  
Think About What It Can Do for You with Your Large Turning Needs!*

## ► **STANDARD FEATURES**

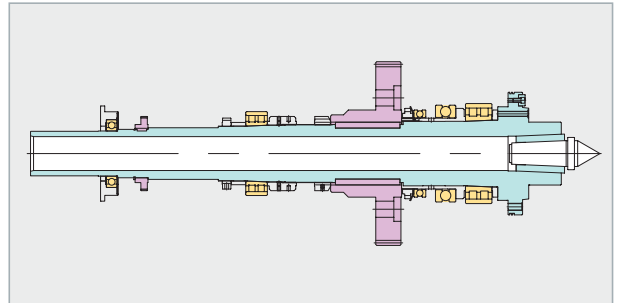
- Automatic shifting 4 speed geared headstock
- Powerful 1500kgf.m spindle torque
- 12 tons load capacity between centers
- Swing up to 1700mm
- Up to 8000mm shaft turning capacity
- Induction hardened and precision ground guide ways
- Extra wide one-piece 3-way Meehanite cast iron bed
- Built-in rotating tailstock spindle(270mm quill dia.)
- Tailstock load meter
- Heavy duty bi-directional H-4 turret



## MAIN SPINDLE

The massive A2-15" spindle is dynamically balanced and supported at three points by a large (200mm i.d.) diameter super precision class bearings.

The special alloy steel, forged and heat treated, used for its rigidity and toughness and the three point supports are the essence of the uncompromised rigidity of this heavy duty spindle. The main spindle delivers up to 1500kgf.m. of torque. A high volume forced lubrication system with safety interlock is provided for lubrication and heat dissipation.



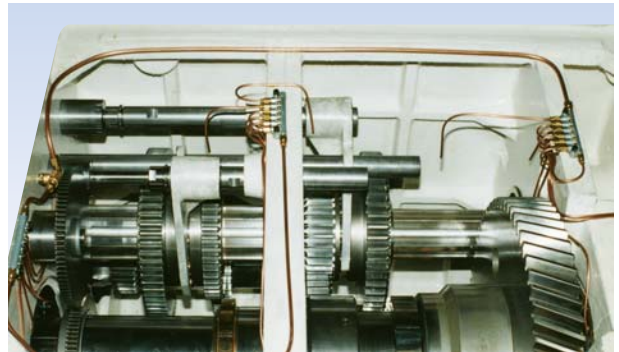
## HEAD STOCK

The construction of this heavy duty box type headstock is reinforced thick wall cast iron for maximum rigidity. The design of this robust headstock features heavily ribbed double wall support for spindle front bearings and the reinforced thick wall positioned in the middle to provide the true three point spindle supports.

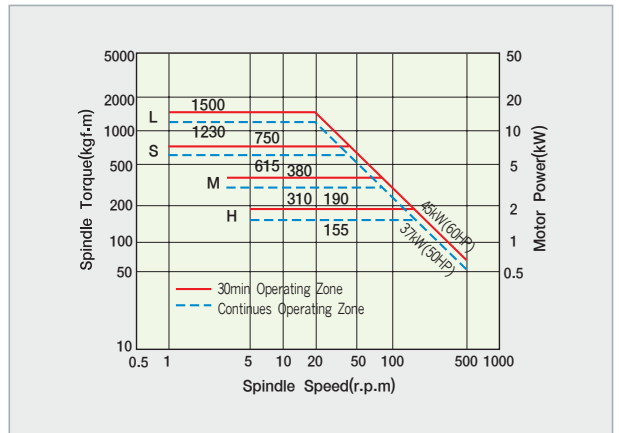
The four hydraulically shifted gear ranges provide a broad range of constant power, speed and torque to suit a wide variety of turning operations.

All bearings used in the headstock are high precision class.

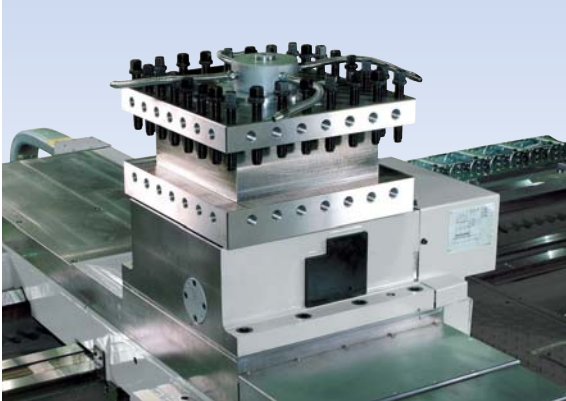
High volume forced lubrication system with safety interlock provided.



## SPINDLE TORQUE



## CARRIAGE & TOOL POST



The extremely rigid extended H-style saddle and wide cross slide (480mm) driven by a large diameter high precision ballscrews are designed to handle the enormous 1500kgf.m. of full spindle torque. Heavy and interrupted cuts are no match for the rigid saddle, cross slide and the drive mechanisms.

The fluoroplastic resin bonded onto the sliding surfaces of saddle and cross slide combined with fully automatic metered lubrication system assures smooth machining operations and low friction surface.

The fully automatic horizontal 4-station turret features bidirectional indexing. Rugged high quality cast iron construction, large diameter Curvic couplings and the powerful 2000kgf. hydraulic clamping force

of this heavy duty turret guarantees unmatched metal removal rate, extended tool life and superb finish and accuracy.

Vertical 8-station turret as any combination of dual turret configurations is available as an option. Horizontal 4-station power tool turret and special deep hole boring device is also available.

## TAILSTOCK

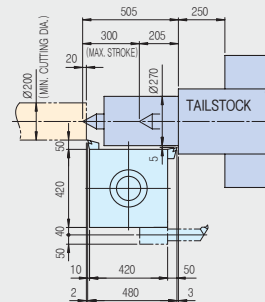
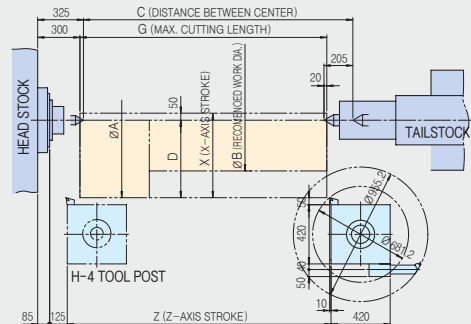


The heavy duty box type tailstock of high quality cast iron construction boasts a large 270mm diameter quill and a built-in rotating spindle. The tailstock is designed to handle workpieces of up to 12 tons pounds between centers without steady rest.

All tailstock spindle bearings are high precision class to assure superior machining accuracy. The ratchet lock device manually engaged with the racks embedded along the bed casting prevents the tailstock from slippage. The hydraulic tailstock load meter permits precise setting of quill thrust : work weight vs. thrust requirement chart provided at the tailstock. Motorized rapid traverse systems are provided for fast positioning of both quill and tailstock body.

## TOOL TRAVEL RANGE (H-4 Turret)

Unit : mm



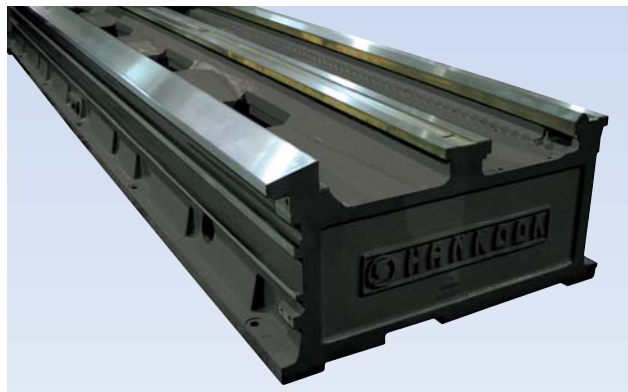
### ● TOOL POST & TAILSTOCK INTERFERENCE

	A	B	D	X
DYNATURN 1100	1100	720	560	600
DYNATURN 1300	1300	920	660	700
DYNATURN 1500	1500	1120	760	800
DYNATURN 1700	1700	1320	860	900

Distance Center	2000	3000	4000	5000	6000	7000	8000
C	2160	3160	4160	5160	6160	7160	8160
G	2000	3000	4000	5000	6000	7000	8000
Z	2120	3120	4120	5120	6120	7120	8120

## BED



The extra wide (1150mm) one-piece solid bed of Meehanite cast iron construction is densely ribbed to withstand the brutal forces of heavy cutting and loading. This extremely rigid bed is fully stress relieved, induction hardened, and then precision ground in one set up for inherent accuracy.

For easy disposal of chips, steep angle chutes are provided in between the bed ways.



## MACHINE SPECIFICATIONS

Items		Unit	DYNATURN						
			1100		1300		1500		1700
Capacity	Swing over bed	mm(inch)	1100(43.3)		1300(51.2)		1500(59.1)		1700(66.9)
	Swing over cross slide	mm(inch)	720(28.3)		920(36.2)		1120(44.1)		1320(52.0)
	Maximum turning diameter	mm(inch)	1100(43.3)		1300(51.2)		1500(59.1)		1700(66.9)
	Distance between centers	mm(inch)	2000(79)	3000(118)	4000(157)	5000(197)	6000(236)	7000(276)	8000(315)
	Maximum turning length	mm(inch)	Same as center distance						
	Maximum load between centers	kg(lbs)	12000(26455)						
Spindle	Spindle nose	ASA	A2-15						
	Spindle speed(inf.variable)	rpm	1-500						
	Spindle speed range	-	Auto 4 ranges						
	Spindle bore diameter	mm(inch)	105(4.1)						
	Spindle front bearing diameter	mm(inch)	Ø200(7.9)						
	Maximum spindle torque	kg.m(ft.lb)	1500(10850)						
Turret	Standard turret	-	Hydraulic Automatic H-4 Turret [ V-8 Turret: Option ]						
	Cutting tool size	mm(inch)	□50(□2) [ V-8 Turret: □32(□1.26) ]						
Travel	Maximum X-axis travel	mm(inch)	600(23.6)		700(27.6)		800(31.5)		900(35.4)
	Maximum Z-axis travel	mm(inch)	Center distance +120(4.72)						
	X-axis rapid traverse	m/min(ipm)	4(157)						
	Z-axis rapid traverse	m/min(ipm)	6(236)						
Tailstock	Tailstock quill diameter	mm(inch)	270(10.6)						
	Tailstock quill traverse	mm(inch)	300(11.8)						
	Tailstock spindle taper	-	1/10 Metric taper #80						
Bed	Bed type	-	3-silde, 4-bearing way						
	Bed width	mm(inch)	1150(45.3)						
Motors	Spindle motor(30min/Cont.)	kW(HP)	AC 45/37(60/50)						
	X/Z-axis AC servo motor	kW(HP)	AC 3(4)/7(9.3)						
	Hydraulic pump motor	kW(HP)	AC 3.7(5)						
	Tailstock body rapid feed motor	kW(HP)	AC 1.5(2)						
Machine Weight	Dynaturn 1100	kg(lbs)	16200	17700	19300	20800	22400	23900	25400
	Dynaturn 1300		(35800)	(39100)	(42600)	(45900)	(49400)	(52700)	(56000)
	Dynaturn 1500		Add. 900(1980)						
	Dynaturn 1700		Add. 1800(3960)						
CNC Controller		-	FAUNC 21i-TB						

## STANDARD ACCESSORIES

- CNC controller, FAUNC 21i-TB
- AC spindle and servo drives and motors
- 4-jaw independent chuck(40" dia.)
- Automatic H-4 turret tool post
- Center(metric taper #80×75 degree angle)
- Center sleeve(1/10 metric taper #120×#80)
- Hydraulic power unit
- Coolant system
- Live tailstock spindle
- Tailstock body rapid feed system
- Tailstock quill rapid feed system
- Tailstock load meter(thrust meter : 6 ton)
- Levelling block
- Foundation bolts & nuts
- Chuck cover
- Patrol lamp
- Work light
- I.D tool holder( ø 63mm)
- O.D tool holder( I )
- Boring bar sleeve( ø 63mm×40/32mm)
- Drill sleeve( ø 63mm×MT#4/3)
- Maintenance tool kits

## OPTIONAL ACCESSORIES

- 4-jaw independent chuck( ø 32", ø 40", ø 55", ø 63")
- 4-jaw independent chuck,  
2-step heavy duty geared chuck( ø 32", ø 40", ø 55", ø 63")
- Hydraulic power chuck( ø 16", ø 20", ø 25", ø 32")
- Hydraulic tailstock quill (In & Out)
- Hydraulic Automatic turret(V8, H4+H4, H4+V8)
- Manual steady rest, metal jaws( ø 50- ø 350, ø 300- ø 600mm)
- Manual steady rest, roller jaws( ø 50- ø 350, ø 300- ø 600mm)
- Manual follow rest, metal type( ø 30- ø 200mm)
- Roll chock stand, metal type( ø 400- ø 800, ø 800- ø 1200mm)
- Boring bar device( ø 100, ø 150, ø 200mm)
- Chip conveyor
- Full length rear chip guard
- Face plate( ø 40")
- 380V transformer

## STANDARD CNC CONTROL FEATURES

### FANUC 21i-TB CONTROL FEATURES:

- Simultaneously controllable axes : 2
- Minimum programmable increment : 0.001mm(0.00001")
- Tape storage length : 320m(1050 feet)
- Registerable programs : 63
- Backlash compensation
- Pitch error compensation
- Constant surface speed control
- Self diagnostic functions

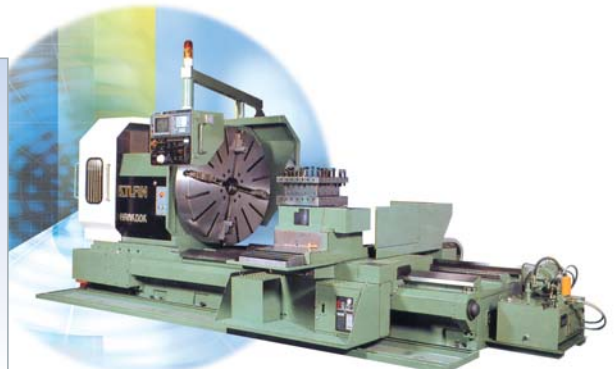
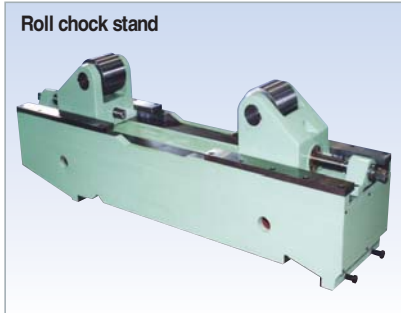
### PROGRAMMING FEATURES:

- Circular interpolation by radius designation
- Tool nose radius compensation(G40-G42)
- Combined use of absolute/incremental command
- Inch/Metric programming
- Chamfering, corner R
- Multiple repetitive cycles(G70-G76)
- Canned cycles(G90,G92,G94)
- Decimal point programming
- Reference point return(G27-G30)
- Sub-program 4 holds nested

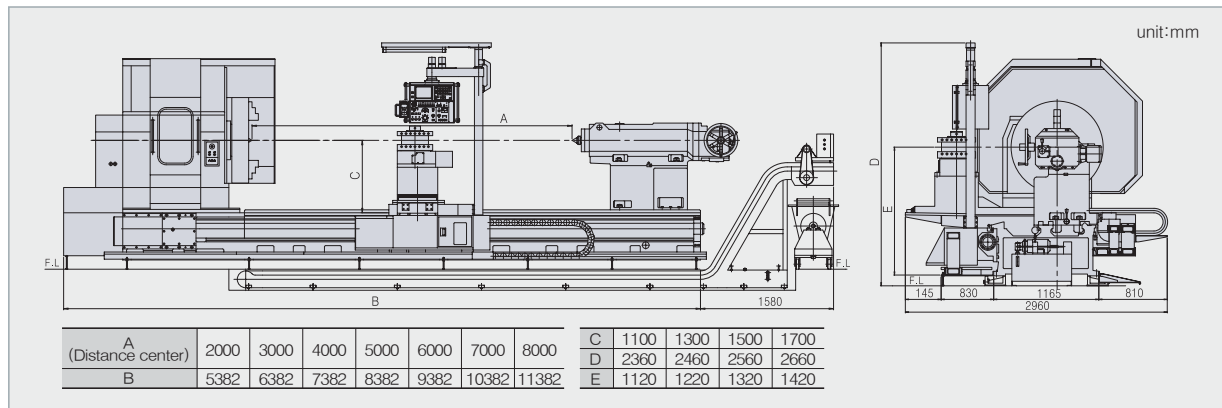
### OPERATION FEATURES:

- 10.4" color LCD
- Absolute position encoders(no zero return required)
- Geometry and wear offsets
- 16 pairs of tool offsets
- Run hour display
- Thread cutting retract
- Direct input of offset value measured
- Input/output interface(RS232C)
- Keyboard type manual data input (MDI full key)
- Program protect key
- Incremental offset
- Rapid traverse override
- Feed rate override
- Spindle speed override
- Tape code:EIA, ISO Automatic recognition

## OPTIONAL EQUIPMENTS



## EXTERNAL DIMENSIONS



Note : Specifications and features are subject to change without prior notice.



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