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TSUNGLIN MACHINERY TECHNICAL CO., LTD.

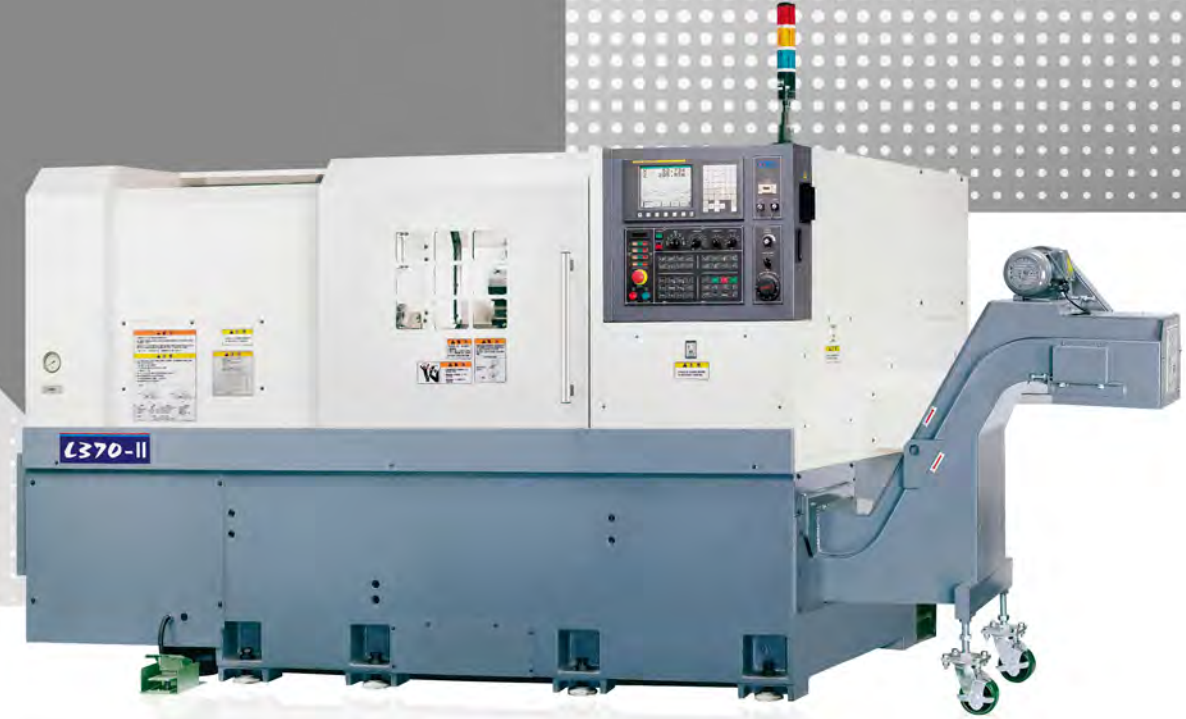
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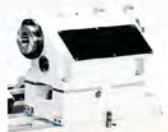




The main structure castings of the machine are manufactured from high quality cast iron, stress relieved for long term stability of material. One-piece fabricated bed construction features increased rigidity and superior machining stability.

## Quality Features Outstanding Performance!

One piece box structure basement assures machine accuracy and no deformation under long-term working. Suitable for high hardness material machining.



Rigid, Robust Tailstock

High rigidity tailstock adopts hydraulic driven on quill, providing stable holding for workpiece.

Tailstock quill diameter

- 60mm, MT 4 (L-290 Series STD.)
- 90mm, MT 5 (L-290 Series OPT.)
- 80mm, MT 5 (L-370 Series STD.)



Box ways on X/Z axis

- Rapid traverse on X-axis is 20M/min. (L-290/M)
- Rapid traverse on Z-axis is 25M/min. (L-290/M)
- Box way surfaces are hardened and precision ground.



Headstock

- The spindle has circulated labyrinths at the front and rear sides, preventing moisture and dust from entering into the spindle.
- The spindle is supported by rigid NN double-row roller bearings at the front and rear ends in combination with the class P4 precision thrust ball bearing which allows the spindle to resist thrust force at all directions.



Hydraulic Turret

The hydraulic turret uses DANFOSS hydraulic index motor driven and high precision curvic coupling, permitting accurate tool positioning.



Separated Independent Coolant Tank

The independent coolant tank employs active type oil fluid separation tank. When used together with an optional oil skimmer, consistent fluid quality can be assured. Easy chips removing and predrilled hole for high pressure pump provide and increase of convenience.



Absolute Encoder for Turret

The turret is available to equip with a non-contact absolute encoder providing faster installation and maintenance.

# Diverse Optional Devices for Enhanced Performance!



**High Speed, Precision Turret**

VDI servo power tooling turret offering optimum turning/milling efficiency.



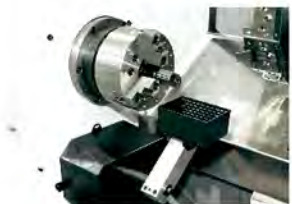
**High/Low Pressure Brake on C-axis**

The high/low pressure lock/unlock function upgrades stability in milling, drilling and tapping. This feature also allows the C-axis to perform milling operation simultaneously with two axes.



**Programmable Tailstock**

The tailstock can be operated by using "M" commands for increased operating convenience.



**Parts Catcher**

The aluminum parts collection box may prevent damage during parts collection.



**Product Conveyor**

The product conveyor combined with the barfeeder allows the machine to perform fully automatic operations.



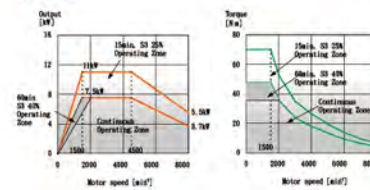
**Manual/Auto Tool Presetter**

The manual/ automatic tool presetter permits accurate calibration for tool compensation.

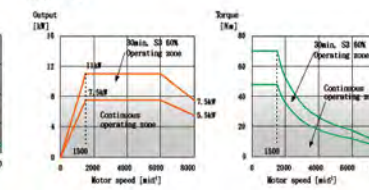
# Spindle Power Output / Torque Diagram Travel Diagram

## Spindle Power Output / Torque Diagram

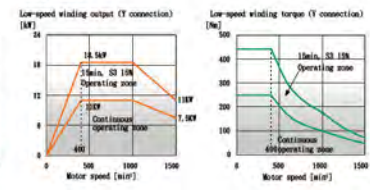
**L-290**  
β8/8000i



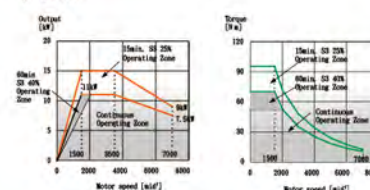
**L-290M**  
α8/8000i



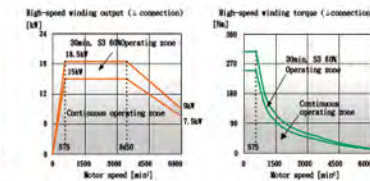
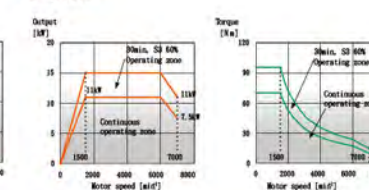
**L-370II/M**  
α30/6000iP



**L-290B**  
β12/7000i

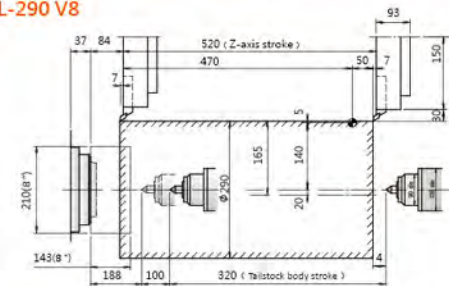


**L-290BM**  
α12/7000i

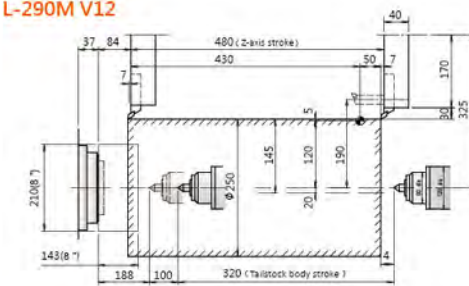


## Travel Diagram

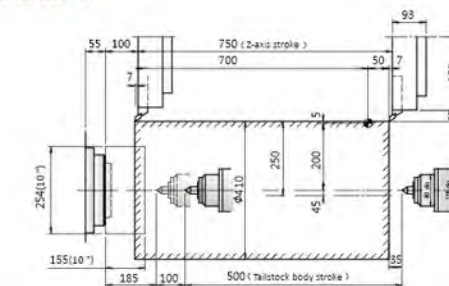
**L-290 V8**



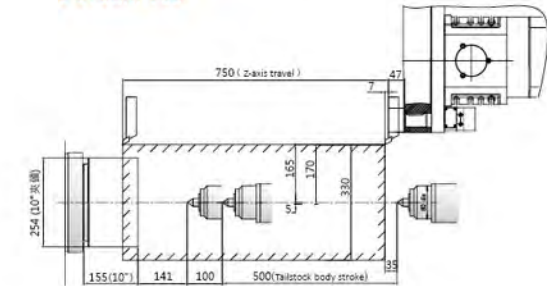
**L-290M V12**



**L-370II V8**



**L-370IIM V12**

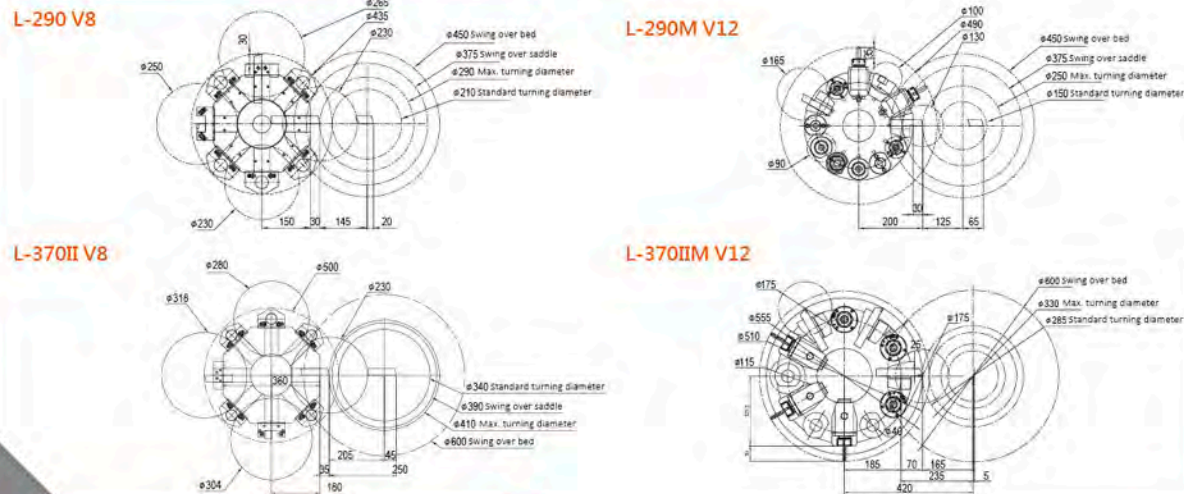


# Tool System Tool Interference Diagram Dimensional Drawing

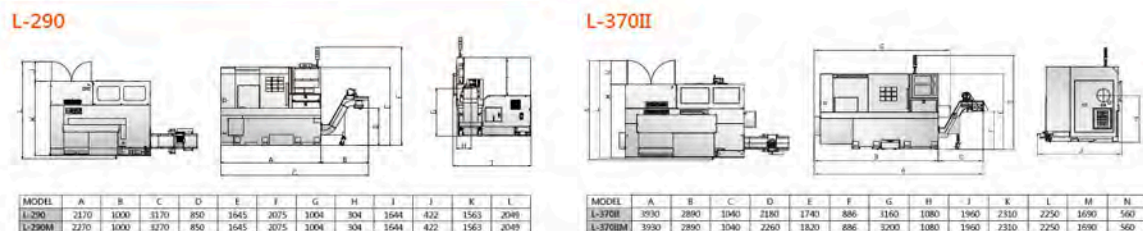
## Tool System



## Tool Interference Diagram



## Dimensional Drawing



# Machine Specification

Description	Unit	L-290	L-290B	L-290M	L-290BM	L-370II	L-370IIM
<b>CONTROLLER</b>		Oi-Mate TD			Oi-TD		
<b>CAPACITY</b>							
Swing over bed	mm	Ø450	Ø450	Ø450	Ø450	Ø600	Ø600
Swing over saddle	mm	Ø375	Ø375	Ø375	Ø375	Ø390	Ø390
Max. turning diameter	mm	Ø290	Ø290	Ø250	Ø250	Ø410	Ø330
Max. working length	mm	500	480	475	435	700	700
Distance between centers	mm	600	600	600	600	800	800
Bar capacity	mm	Ø52	Ø65	Ø52	Ø65	Ø75	Ø75
Chuck size	inch	8"	10"	8"	10"	10"	10"
<b>STROKE</b>							
X-axis stroke	mm	165 (145+20)	165 (145+20)	190 (125+65)	190 (125+65)	250 (210+40)	232.5 (212.5+20)
Z-axis stroke	mm	520	500	480	460	750	750
<b>FEEDRATE</b>							
Axial rapid feedrate	m/min	X:20, Z:25	X:20, Z:25	X:20, Z:25	X:20, Z:25	X:20, Z:25	X:20, Z:25
Cutting feedrate (X/Z)	mm/min	10000	10000	10000	10000	10000	10000
<b>SPINDLE</b>							
Spindle speed	rpm	3000	3000	3000	3000	3000	3000
Spindle nose	-	A2-6	A2-6	A2-6	A2-6	A2-8	A2-8
Spindle taper	-	1/20	1/20	1/20	1/20	1/20	1/20
Spindle bore diameter	mm	Ø66	Ø76	Ø66	Ø76	Ø88	Ø88
<b>TURRET</b>							
Turret type and storage capacity	-	Hyd. V8 (opt. V12)	Hyd. V8 (opt. V12)	VDI 30 (V12)	VDI 30 (V12)	Hyd. V8 (opt. V12)	VDI 40 (V12)
Square tool dimension	mm	25x25	25x25	20x20	20x20	25x25	25x25
Boring tool dimension	mm	Ø40	Ø40	Ø32	Ø32	Ø40	Ø40
M-axis tool speed	rpm	-	-	5000	5000	-	5000
M-axis tool motor output (cont./15 min.)	KW (HP)	-	-	2.2/3.7 (3.0/5.0)	2.2/3.7 (3.0/5.0)	-	3.7/5.5 (5.0/7.3)
<b>TAILSTOCK</b>							
Quill stroke	mm	100	100	100	100	100	100
Quill diameter	mm	Ø60	Ø60	Ø60	Ø60	Ø80	Ø80
Quill taper	-	MT4	MT4	MT4	MT4	MT5	MT5
<b>MOTOR</b>							
Spindle motor output (cont./30 min.)	KW(HP)	7.5/11 (10/14.7)	11/15 (14.7/20)	7.5/11 (10/14.7)	11/15 (14.7/20)	15/18.5 (20/25)	15/18.5 (20/25)
Axis servo motor	KW(HP)	X:1.8, Z:1.8 (X:2.4, Z:2.4)		X:3.0, Z:3.0 (X:4.0, Z:4.0)		X:3.0, Z:3.0 (X:4.0, Z:4.0)	
<b>X/Z AXIS ACCURACY</b>							
Positioning accuracy (VDI 3441)	mm	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability accuracy (VDI 3441)	mm	0.006	0.006	0.006	0.006	0.006	0.006
<b>COOLANT TANK</b>							
Coolant tank capacity	L	80	80	80	80	110	110
<b>OTHER</b>							
Power requirements	KVA	20	20	25	25	30	30
Machine size	mm	2170x1644x1645	2170x1644x1645	2270x1644x1645	2270x1644x1645	3160x1960x1740	3200x1960x1820
Machine weight	kg	3700	3700	3750	3800	5100	5500

All specifications, dimensions and design characteristics are subject to change without prior notice.

# Standard and Optional Accessories

## Standard

- FANUC Oi-Mate TD/Oi-TD Control
- Hollow Hydraulic 3-jaw Chuck
- Hydraulic V8 Turret/VDI Power Turret
- Hydraulic Tailstock
- Foot Switch Control for Chuck
- Coolant System
- Automatic Lubrication System
- 3-color Warning Lamp
- Working Lamp
- Tool Box with Tools
- Chip Conveyor & Chip Cart
- Operation Manual
- Maintenance Manual
- Manual Guide Oi

## Option

- Spindle Speed 4200 rpm
- V12 Hydraulic Turret
- V8/V12 Servo Turret (L-290/B)
- Programmable Tailstock
- Air Blast Device
- Parts Catcher
- Product Conveyor
- Auto Door
- Oil Mist Collector
- Bar Feeder Interface
- Oil Skimmer
- Manual/Auto Tool Presetter
- Automatic Loading/Unloading Device (Robot)
- Transformer

Standard and optional equipment listed as above are for reference only. The correct information is dependent on customer's order.