

Item	Model	LG-800 NEO	LG-1000 NEO	LG-1370 NEO	LG-1570 NEO
1.Full-Enclosed Splash Guard		●	●	●	●
2.Full-Enclosed Splash Guard for cts		★	★	★	★
3.Cooling System		●	●	●	●
4.Coolant Flushing Device		★	★	★	★
5.Coolant Jets Around Spindle		●	●	●	●
6.Spindle Oil Cooler		★	★	★	★
7.Air Blast Through Spindle		●	●	●	●
8.Table side air blast M50 control		●	●	●	●
9.Automatic grease lubrication system		●	●	●	●
10. X / Y / Z Axis Ball Screw Enforce Pressure		●	●	●	●
11.Coolant tank		●	●	●	●
12.Link type chip conveyer		★	★	★	★
13.Front Mounted Screw Type Chip Conveyer		—	—	★	★
14.Fluorescent Lampx1		●	●	●	●
15.Fluorescent Lampx2		★	★	★	★
16.Spindle Air Curtain		●	●	●	●
17.Cooling Tube Coolant gun		★	★	★	★
18.Hydraulic Hose Coolant gun		★	★	★	★
19.Air gun		★	★	★	★
20.Leveling Bolts and Blocks		●	●	●	●
21.Foundation bolt, Concrete		★	★	★	★
22.Remote Manual Pulse Generator		●	●	●	●
23.Convection Heat Exchanger in Control		★	★	●	●
24.Air conditioning for electrical cabinet		-	-	★	★
25.Auto Power off		●	●	●	●
26.Operation Finish Lamp		●	●	●	●
27.RS-232 Interface		●	●	●	●
28.Operation Manual & Electric Drawing Equipment		●	●	●	●
29.Tool Package		●	●	●	●
30.#40 8000rpm Pulley spindle		●	●	●	●
31.#40 10000/12000rpmPulley spindle		★	★	★	★
32.#40 10000/12000/15000rpmDDS spindle		★	★	★	★
33.#40 Disk Type Tool Magazine		●	●	●	●
34. Suspension Operator Box		-	-	●	●
35.Coolant Through Spindle		★	★	★	★
36.20BAR Coolant Through Spindle		★	★	★	★
37.25Bar/40Bar/70Bar Coolant Through Spindle		★	★	★	★
38.NC Rotary Table		★	★	★	★
39.DNC Software		★	★	★	★
40.Auto Tool Length Measurement		★	★	★	★
41.Auto Tool Length and Diameter Measurement		★	★	★	★
42.Auto Work Piece Measurement		★	★	★	★
43.Closed Loop Linear Scale Positioning System		★	★	★	★
44.Mist coolant system		★	★	★	★
45.Oil Mist Collector System		★	★	★	★

Standard : ●
Optional : ★

LG NEO Series
Smartcenter

Hartrol Premium controller
5-Year warranty on guideways
Oversized column design

Website



Facebook





Hartford

Hartrol • Smartcenter • Robocell

We manufacture intelligent machines only

She Hong INDUSTRIAL CO. LTD.
No.3 Jingke N. Road, Taichung City, 408 Taiwan
www.hartford.com.tw Tel: 886-4-23501980 Fax: 886-4-23581793
CAT.No.: 20231113 - E03
All Graphic and text on the catalog have been registered. Those who reprint will be held liable



Hartrol Premium

Hartrol Premium keeps you informed of the machine's status at all times.

Hartrol Premium provides comprehensive automation solutions, detailed content on AI intelligent automation, case studies, and other automation projects, allowing you to have a better understanding of Hartford exclusive technology.

Hartford APP Store

The main technologies include intelligent management functions, warning monitoring and diagnostics, collision prevention capabilities, 3D machining simulation, and various other smart technologies that enhance machining performance. These technologies allow you to have real-time control over the current status of the machine, ensuring precision in machining.



Wi - Fi remote operation with mobile phones.



Hartrol Premium On PC

You can run the HP app and the Mitsubishi standard CNC interface on PC (Notebook).

Imagine what future machines ought to be outlined.

- + Remote Mobile Operation
- + Hartrol Plus Sync & Update
- + User Connect



IoT

- + Spindle Thermal Compensation
- + Casting Thermal Compensation
- + Thermal Symmetry / Thermal Balancing



T.S.S

- + Diagnosis Report on Spindle Operation
- + Alarm Report System



ZDT

- + Facial Recognition System
- + Smart Efficient Chip Collection



AI

How to quickly implement intelligent automation?

Intelligent automation production line unit

Professional intelligent automation production line planning, whether it's 1-to-1, 1-to-2, 1-to-3, or more, we tailor a customized automated factory for you, effectively reducing costs and enhancing competitiveness.

Easy to get started

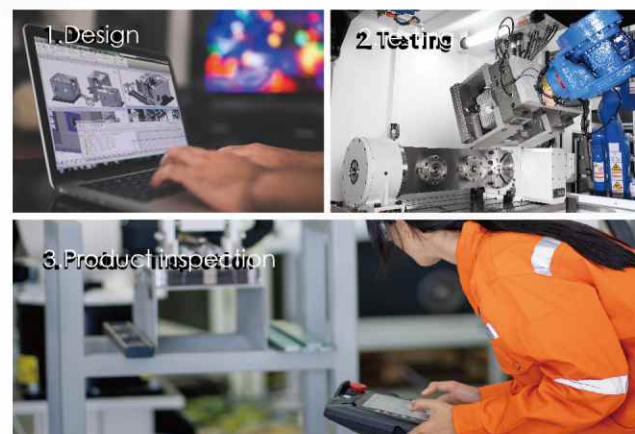
Hartford Robocell provides you a professional robot training and rich automation experience, to let you quickly learn and easily operate your automation systems.

Quality control monitoring

Automation systems have to pass all the strict Quality Control tests at every stage like design, assembly, testing, final inspection and shipment, complete quality control processes for all the products.

Professional analysis

Robocell Machining optimization service, to let you be on the top by using professional machining methods



What definition of Automation interface only :

① Automatic Door

- Pneumatic/Automatic Door System_Operating Door
- Pneumatic/ Servo Automatic Door System_Right Side Door

② Automatic Interface

- I / O Preparation
- Profibus Link Preparation
- CC-Link Preparation
- EtherNet / IP Link Preparation

③ Pneumatic / Hydraulic Interface

- 1/2/3 Cell Automatic Pneumatic/ Hydraulic Interface in the machine

④ Other options

- High Pressure Spray Nozzle with Automatic Preparation
- HStainless Base
- High-volume chip - removal system comprising dual side augers.



Optimized performance for speed and cutting efficiency.

Designed specifically for the electric vehicle, aluminum, and steel processing industries, it is the best machining partner that can improve processing efficiency.



Bicycle component A



Bicycle component B



Bicycle component C



Car engine hood



Gearbox cover



Car battery box

Actual cutting tests

Model : LG-1370 NEO

■ Spindle : 12,000 rpm#40 Pulley type 15kW ■ Cutting material : S45C



Face milling

Tool diameter	Ø80 mm
Feed rate	4,800 mm/min
Cutting depth	1 mm
Cutting width	65 mm
Cutting volume	312 cc/min



End milling

Tool diameter	Ø63 mm
Feed rate	4,000mm/min
Cutting depth	30 mm
Cutting width	2 mm
Cutting volume	240 cc/min



Tapping

Tool diameter	M20 x P2.5 mm
Feed rate	500 mm/min
Cutting depth	20 mm
Spindle speed	200 rpm



Drilling

Tool diameter	Ø17.5 mm
Feed rate	350 mm/min
Cutting depth	30 mm
Spindle speed	1600 rpm

All the results featured in this catalogue were produced under strict testing condition in a special zed testing environment. Under different testing conditions and in less than ideal testing environments. That the test results may vary from those shown in this catalogue.

The very first step for fully intelligent machining.



What is **Hartrol Premium** ?

Hartrol premium is a brand new intelligent controller Hartrol , Hartnet and Hartford electrical function together which developed and made by Hartford.

HMI and operation is user friendly, it can achieve :

1. Internet connection, collect and analyze data, monitoring by portable device
2. Intelligent control: Auto revise human error and operating basis
3. Real time update new APPs

The Intelligent Controller You Should Have

With three major solutions, Hartrol Plus takes you machining to the next level. Highly optimized and intelligent controls bring even more capabilities and productivity to your metal cutting processes.

With ease use, advanced automation, and smart data collection, Hartrol plus is essential tool for enhancing performance on your production floor.

Cost down to 20%
Intelligent Support
Multi Touch Screen
CCD remote management
E-book
Remote Management
Cutting Condition Calculator
Stand-by Mode



Hartrol Premium

Productivity increased 23%
Intelligent Functions
HartCAM
AFC= Automatic Feedrate Control.
SSS-4G
Machining Time Countdown for Single Block
Optimized Machining Program
Automatic measurement

Efficiency increased 20%
Intelligent Design
MES(Manufacturing Execution System)
Machine Utilization Management
Operator Performance Management
24 Hours a Day Management
Remote Management
Hartford Userconnect

Hartford UserConnect

- Alert Notification
- Remote Diagnoses
- Remote Value Enhancement
- Remote Monitoring & Management



Why is the Hartrol machine considered the Tesla of machine tools?

A smart machine is a machine that can think independently and always anticipate and prepare solutions ahead of the user (THINK AHEAD)

A smart machine continuously assists users in improving machining efficiency, energy conservation, and reducing unnecessary movements. The reason a smart machine can think independently is due to the Hartrol Premium intelligent controller, similar to the various smart software and features found on the Tesla car's central console, enabling autonomous driving capabilities. While the hardware of the machine serves as a vehicle, the smart machine utilizes AI and IoT to harness intelligent functionalities. For instance, AI whole-machine thermal compensation ensures machining precision remains unaffected by ambient temperature variations. AFC automatic feed rate control, AI tool breakage detection, and helical interpolation machining significantly reduce tool wear issues. Moreover, numerous app functions such as Userconnect, Hartnet production rate management, and automatic measurement are designed to enable users to monitor and maintain the machine intelligently.



01
Before
Processing

This is a software-based machine.

03
After
Processing

02
During
processing

- One-click machine setup (optimization of speed and accuracy)
- HCP, automatic generation of G - code (reducing programming time by 80%)
- Workpiece calibration, tool length compensation (reducing setup time by 80%)

- Whole-machine thermal compensation (maintaining precision regardless of day and night temperature variations)
- AFC automatic feed rate control (saving 23% in re-machining time)
- CCD surveillance mode (monitoring the machine remotely anytime, anywhere)

- Processing countdown timer (preparing materials in advance to prevent machine idle time)
- Component operating hour statistics (maintenance reminders)
- Machine utilization rate report (no manual recording required)
- Eco function (power-saving standby mode, environmentally friendly carbon reduction)

What exclusive technologies does the Hartford APP offer ?

The intelligent machines come with numerous powerful smart features to meet various processing needs. There are even more smart functions waiting for you to discover and utilize. If you have any other requirements for Hartrol Premium smart features, please consult our sales representatives.



AI Environment Thermal Displacement Compensation(opt.)

Vertical machining center : **0.03mm**

Thermal displacement problem is improved up to **60%**

It can achieve good accuracy as in constant temperature room.



AI Facial recognition system(opt.)

Face ID log - in authority

Recognition time : **2** seconds

Recognition accuracy : **100%** s



Highlight on Intelligent Auger(opt.)

50% efficacy increases

- Intelligent auger automatically proceeds cleaning iron chips based on electrical current of spindle.
- Intelligent auger automatically performing reversal mode in case amount of iron chips outnumbers, preventing from machine stop. Auger is overly shielded.



On line update

With online updating system similar to smart phone will make sure your operating system stays the latest version with Hartford.

24hr ➡ Live updating , no boundary no time zone difference.

NEW ➡ Synchronize with Hartford for the latest information and functions.

Easy ➡ One key updating, easy and fast !

The Hartrol plus NC version must be A6 or above



Remote Mobile Operation (opt.)

Wake up the machine in hibernation mode from home using a mobile phone and perform warm-up, so that processing can begin as soon as you arrive at the factory. Even if you are not in front of the machine, you can still have control over the current status and information of the machine.



Graphical user interfaces for part setting, inspection, tool setting (OPT.)

- Ease of use
- Increasing usability
- Eliminating manual set-up tasks
- Increasing efficiency



Hartford ZDT

Eliminate machine down time and increase efficiency.

ZDT –

1. Ease of use
2. Check parts status clearly
3. Eliminating unexpected down time
4. Instand notification to your machine and your portable device.



AFC (OPT.)

Machining efficiency is increased by **21%**↑

Controls the feed rate depending on the machining situation

- Adjusting feed rate automatically
- Lengthen your tool life
- Reduce machining time



Thermal compensation on spindle(opt.)

No worries about HEAT !!

■ Machine with compensation

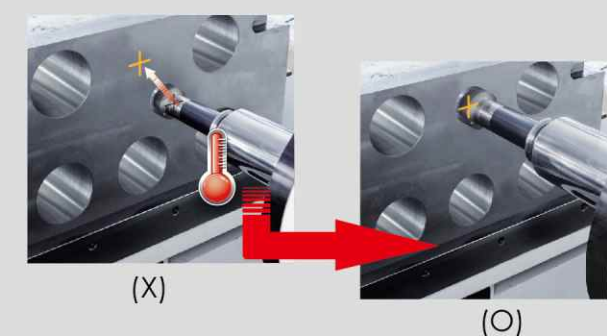
#40 spindle thermal extension is within 0.03mm

#50 spindle thermal extension is within 0.02mm

Notes: Above test is under room temperature

■ Machine without compensation

Spindle thermal extension is around 0.10mm



A series of machine models designed specifically for the electric vehicle industry.

LG NEO Series

Hartford LG NEO offers more unique features by utilizing finite element analysis simulation to evaluate stress distribution patterns in the machine body under load. This assessment helps determine the thickness of the machine bed, mechanical design, and column-beam positioning. It delivers excellent processing speed, precision, and high stability.



Model : LG-1370 NEO

5 YEARS WARRANTY
Full range of linear guideway five-year warranty

Warranty coverage will not apply under following condition
1. Improper operation (collision)
2. Lack of regular cleaning of accumulated debris causing damage to the linear rails & carriages.

Environmentally friendly, energy-saving, and carbon-reducing grease lubrication design.

1. The feed axis is designed with grease lubrication, in compliance with the next-generation environmental regulations.
2. The lubrication requires a small amount, with longer oil replenishment cycles, reducing downtime for maintenance and lowering costs.
3. The grease has low water solubility, extending the lifespan of cutting fluid and reducing the frequency of replacements.
4. The grease will not drip onto the work surface, affecting the operation of the machine and the quality of the workpiece.
5. No waste oil disposal issue.



Z - axis without counterbalance design

The Z-axis feed system adopts a large motor drive with a direct-coupled, counterbalance-free design, enhancing the Z-axis response speed and further improving workpiece quality.



The overall design of the machine occupies a small footprint.

1. The compact full enclosure design reduces the footprint by 20% and increases factory space utilization.
2. Multiple units can be shipped in a single container without the need to dismantle the full enclosure sheet metal, saving transportation and installation costs.



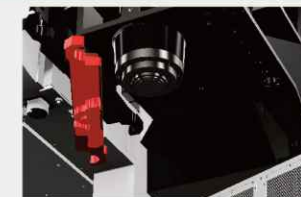
CTS (Coolant Through Spindle) modular design

Compact CTS with streamlined pipelines for space optimization.



Excellent tool change time

Minimum tool change time is **1.18 sec** (#40 opt.)



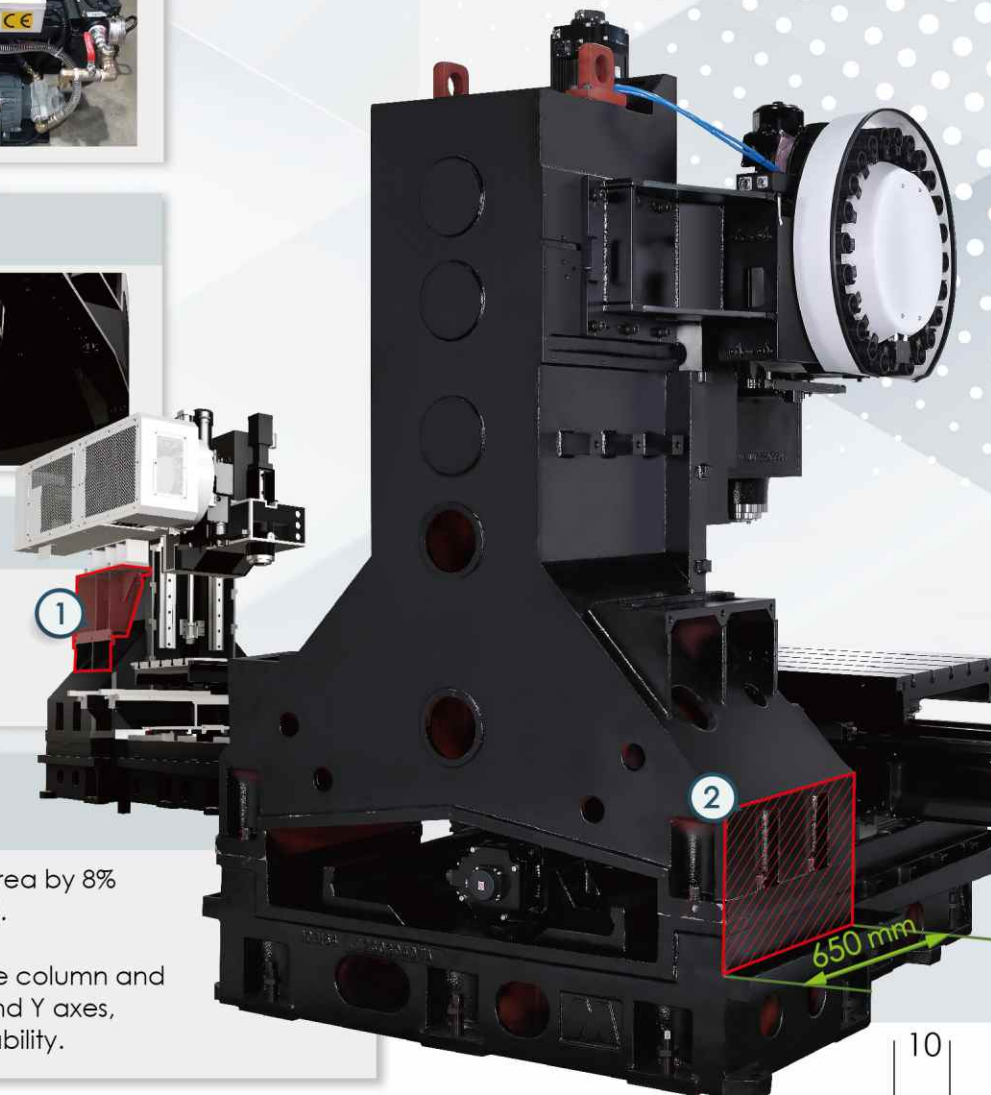
1 Unique combination design of tool magazine and column.

The seated tool magazine design has no impact on column deformation, and enhance column rigidity.

40T (LG-1370 /1570 NEO)

2 Super-sized column and wide base design.

- Improved column interface of contact area by 8% (width increased from 600mm to 650mm). (LG-1370 /1570 NEO)
- Increasing the contact area between the column and the base enhances the rigidity in the X and Y axes, providing a more stable machining capability.



Spindles Manufactured by Hartford OfferQuality Assurance

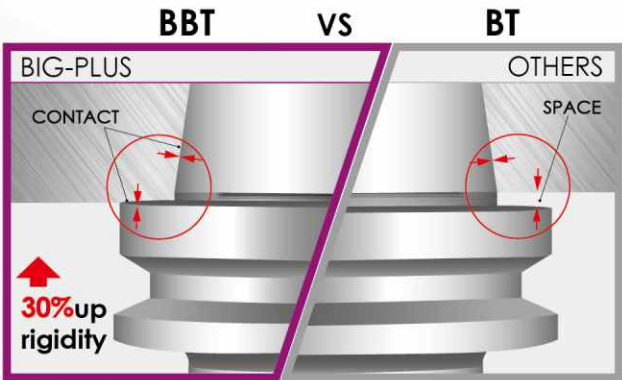
Machine Dimensions

Spindle type

- #40 Pulley 12000 rpm(8000/10000 rpm)
- #40 DDS 15000 rpm (10000/12000 rpm)

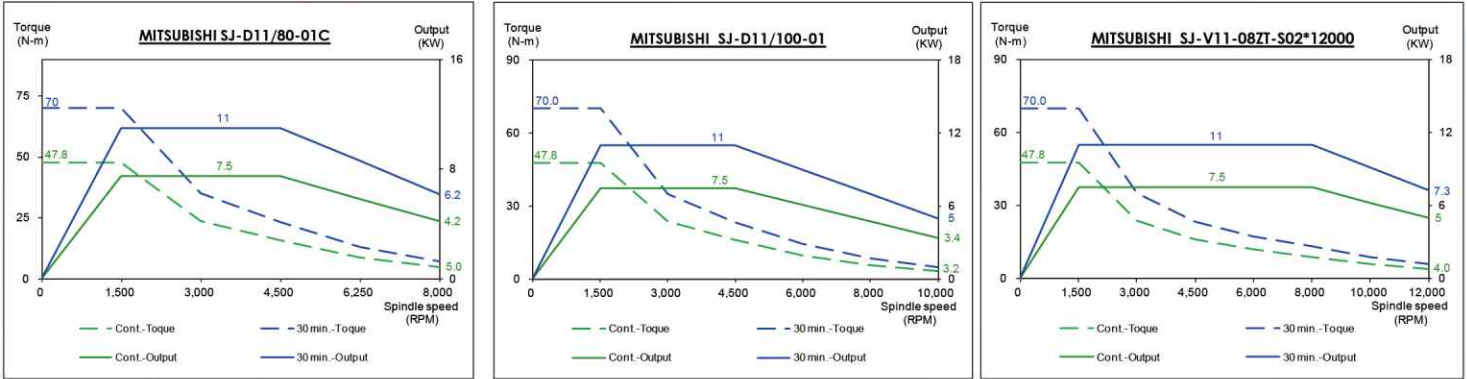
BBT for optional

- Dual contact between the taper and the flange.
- Improves the rigidity, accuracy, speed and performance. Radial deflection, vibration and deviation are significantly reduced.

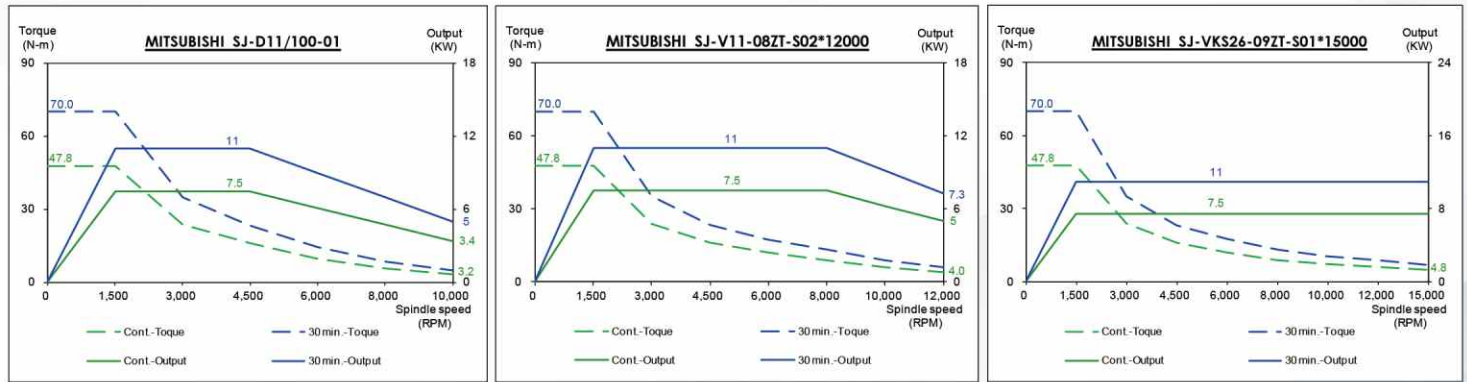


Spindle torque diagrams

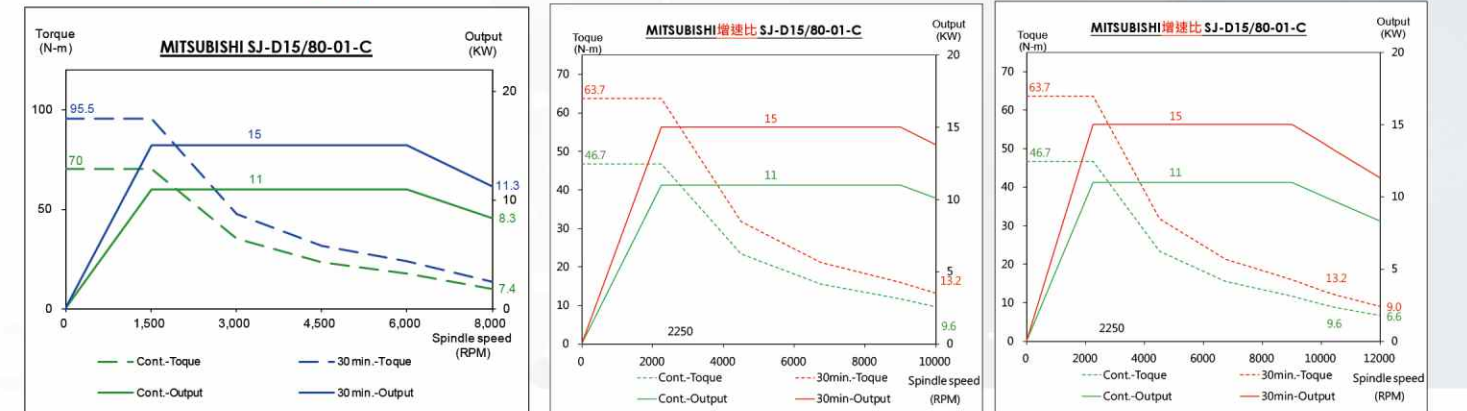
LG-800/1000 NEO • Pulley



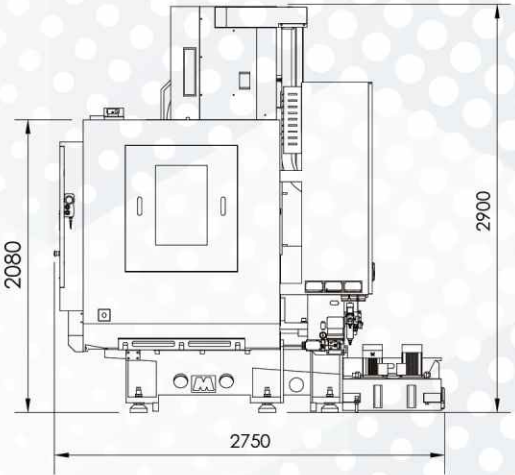
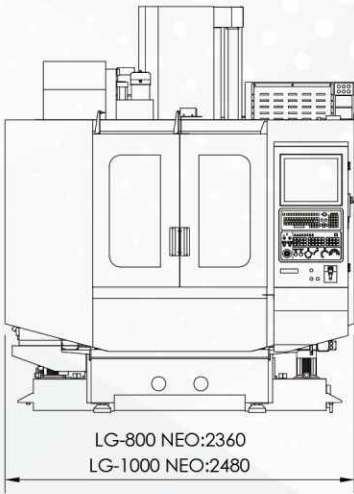
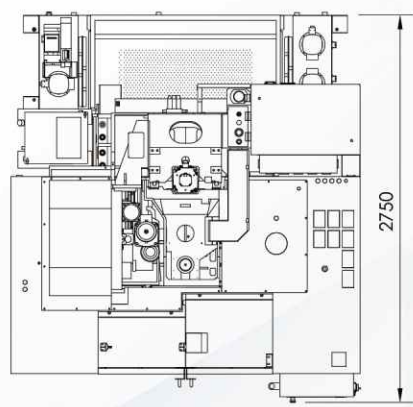
LG-800/1000 NEO • DDS



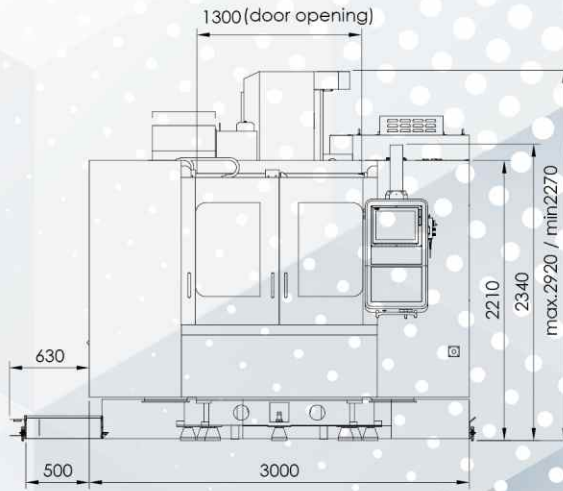
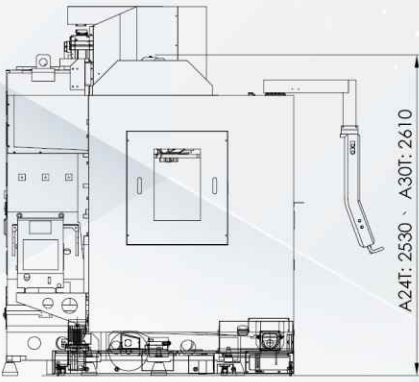
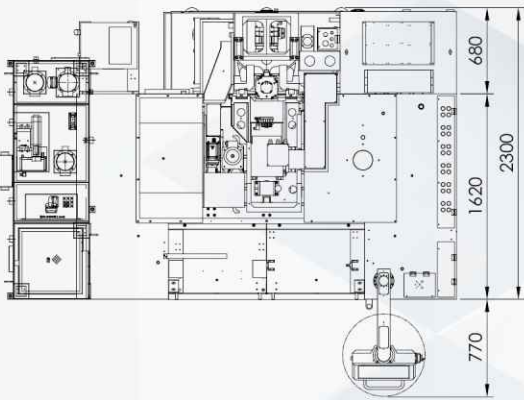
LG-1370/1570 NEO • Pulley



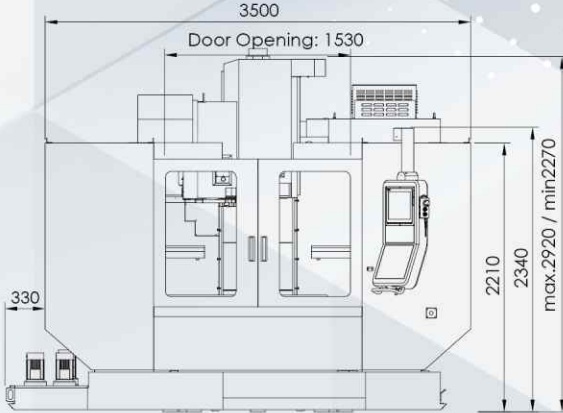
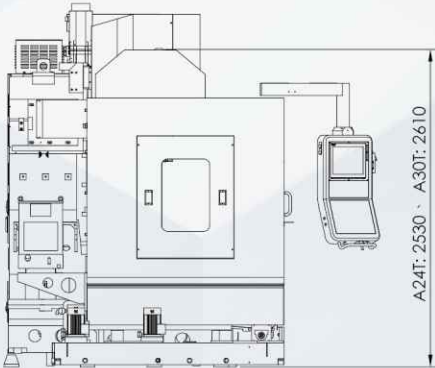
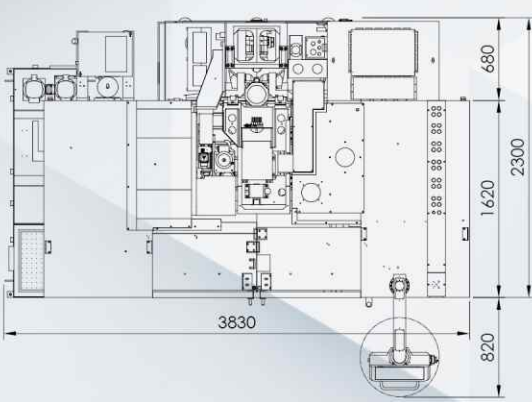
LG-800 / 1000 NEO



LG-1370 NEO



LG-1570 NEO



Machine Specifications

			unit	LG - 800 NEO	LG - 1000 NEO	LG - 1370 NEO	LG - 1570 NEO
Table	Working surface		mm	950 x 510	1150 x 510	1400 x 700	1600 x 700
	T-slot Width x pitch(number)		mm	18 x 160(3)	18 x 160(3)	18 x 125(5)	18 x 125(5)
	Max. load (Average)		kg	500	700	1000	1000
Travel	X -axis travel		mm	800	1000	1300	1500
	Y -axis travel		mm	510	510	700	700
	Z -axis travel		mm	630	630	650	650
	Distance from spindle to table		mm	100~730 opt.300~930	100~730 opt.300~930	150~800 opt.350~1000	150~800 opt.350~1000
	Distance from spindle center to column		mm	562.5	562.5	744	744
Spindle	Spindle nose taper			#40	#40	#40	#40
	Spindle speed(Pulley)		rpm	8000/10000/12000	8000/10000/12000	8000/10000/12000	8000/10000/12000
	Spindle speed(DDS)		rpm	10000/12000/15000	10000/12000/15000	10000/12000/15000	10000/12000/15000
Feed	Cutting feedrate (X / Y / Z)		m/min	12/12/12	12/12/12	15/15/15	15/15/15
	Rapid traverse rate (X / Y / Z)		m/min	40/40/32	40/40/32	30/30/24 opt. 40/40/30	30/30/24 opt. 40/40/30
ATC	Capacity		pcs	A:24(30)	A:24(30)	A:24(30/40)	A:24(30/40)
	Max. tool weight		kg	7	7	7	7
	Max. tool size(dia.x length)		mm	A: Ø 75x300L	A: Ø 75x300L	A: Ø 75x300L	A: Ø 75x300L
	Tool shank			BT40(BBT/CAT/DIN)	BT40(BBT/CAT/DIN)	BT40(BBT/CAT/DIN)	BT40(BBT/CAT/DIN)
	Pull stub bolt			P40T-1 (CAT-40/DIN 69872)	P40T-1 (CAT-40/DIN 69872)	P40T-1 (CAT-40/DIN 69872)	P40T-1 (CAT-40/DIN 69872)
Motor	Spindle drive motor (cont./30 min)		kw	5.5/7.5 opt. 7.5/11	5.5/7.5 opt. 7.5/11	11/15 opt. 15/18.5	11/15 opt. 15/18.5
Positioning Accuracy	Positioning accuracy (JIS B6330), without linear scale		mm	±0.008	±0.008	±0.008	±0.008
	Repeatability (JIS B6330), without linear scale		mm	±0.002	±0.002	±0.003	±0.003
	Positioning accuracy (JIS B6330), with linear scale		mm	±0.006	±0.006	±0.006	±0.006
	Repeatability (JIS B6330), with linear scale		mm	±0.002	±0.002	±0.002	±0.002
	Positioning accuracy (VDI 3441)		mm	0.010	0.010	0.014	0.015
	Repeatability(VDI 3441)		mm	0.006	0.006	0.008	0.010
Other	Required air pressure		kg/cm ²	6.5	6.5	6.5	6.5
	Electric power requirement		KVA	10~30	10~30	20~40	20~40
	Machine weight		kg	4180	4300	7500	8500
	Coolant tank(standard)		L	200	200	286	286
	Machine dimension(LxWxH)		mm	2360 x 2220x 2900	2480 x 2220x 2900	3000 x 2270 x 2913	3500 x 2270 x 2913
	Floor space (standard tank)		mm	2450 x 2750	2480 x 2750	3500 x 2270	3830 x 2270
VDI 3441 accuracy available upon order request.							

Electrical Function

Standard

Hartrol

- Workpiece calibration by MPG directly
- Parameter package
- Thread cutting(0i & 31i only)
- Tool magazine display (0i &31i only)
- Tool status display(0i &31i only)
- Special engraving marco

Optional

Hartnet

- Management system of utilization
- Machining time countdown
- Convenient file transfer

Electrical Function

- Lifting function against gravity
- Retraction for rigid tapping
- Intelligent MPG