Accessories	LG-500	LG-800	LG-1000	LG-1370 NEO	LG-1570 NEO	LG-2100
Item						
1.Full-Enclosed Splash Guard for cts	○	○	○	○	○	○
2.Coolant Flushing Device	○	○	○	○	○	○
3.Spindle Oil Cooler	○	○	○	○	○	○
4.Centralized automatic lubrication system	●	●	●	○	○	●
5.Oil Fluid Separator	●	●	●	-	-	●
6.Automatic grease lubrication system	-	-	-	●	●	-
7.Link type chip conveyer	○	○	○	○	○	○
8.Front Mounted Screw Type Chip Conveyer	○	○	○	○	○	-
9.Fluorescent Lampx1	●	●	●	●	●	●
10.Spindle Air Curtain	●	●	●	●	●	●
11.Coiling Tube Coolant gun	○	○	○	○	○	○
12.Air gun	○	○	○	○	○	○
13.Foundation bolt, Concrete	○	○	○	○	○	●
14.Remote Manual Pulse Generator	●	●	●	●	●	●
15.Convection Heat Exchanger in Control	●	●	●	●	●	●
16.Air conditioning for electrical cabinet	-	-	-	○	○	○
17.Operation Finish Lamp	●	●	●	●	●	●
18.RS-232 Interface	●	●	●	●	●	●
19.#40 8000rpm Pulley spindle	●	●	●	●	●	●
20.#40 10000/12000rpmPulley spindle	○	○	○	○	○	○
21.#40 10000/12000/15000rpmDDS spindle	○	○	○	○	○	○
22.#40 Drum Type Tool Magazine	-	○	○	-	-	○
23.#40 Disk Type Tool Magazine	●	●	●	●	●	●
24.20BAR Coolant Through Spindle	○	○	○	○	○	○
25.20BAR Coolant Through Spindle	○	○	○	○	○	○
26.NC Rotary Table	○	○	○	○	○	○
27.DNC Software	○	○	○	○	○	○
28.Auto Tool Length and Diameter Measurement	○	○	○	○	○	○
29.Auto Work Piece Measurement	○	○	○	○	○	○
30.Closed Loop Linear Scale Positioning System	○	○	○	○	○	○
31.Mist coolant system	○	○	○	○	○	○
32.Oil Mist Collector System	○	○	○	○	○	○

Standard ● Optional ○

Hartford

Advanced Vertical Machining Center with Smart Technology

LG Series

LG-500
LG-800
LG-1000
LG-1370 NEO
LG-1570 NEO
LG-2100

Hartford
Hartrol・Smartcenter・Robocell
Only High-Quality Intelligent Machines

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Website

01 Workpiece Machining Applications

Vertical Machining Center for Maximum Economic Benefits

Specifically tailored for the electric vehicle, aluminum, and steel processing industries, it pursues ultimate machining precision and innovative design, making it your ideal partner for producing high-quality workpieces.

1

2

3

4

1 | 2
3 | 4

Mechanical

1 Hardware parts

Motorcycle

2 Car engine hood

Aerospace

3 Aero components

Bicycle

4 Bicycle component

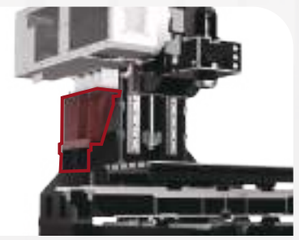
02 Machine Structure Features

Optimized structural design for stability,
non-deformation, and enduring precision.

LG-1370 NEO

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.



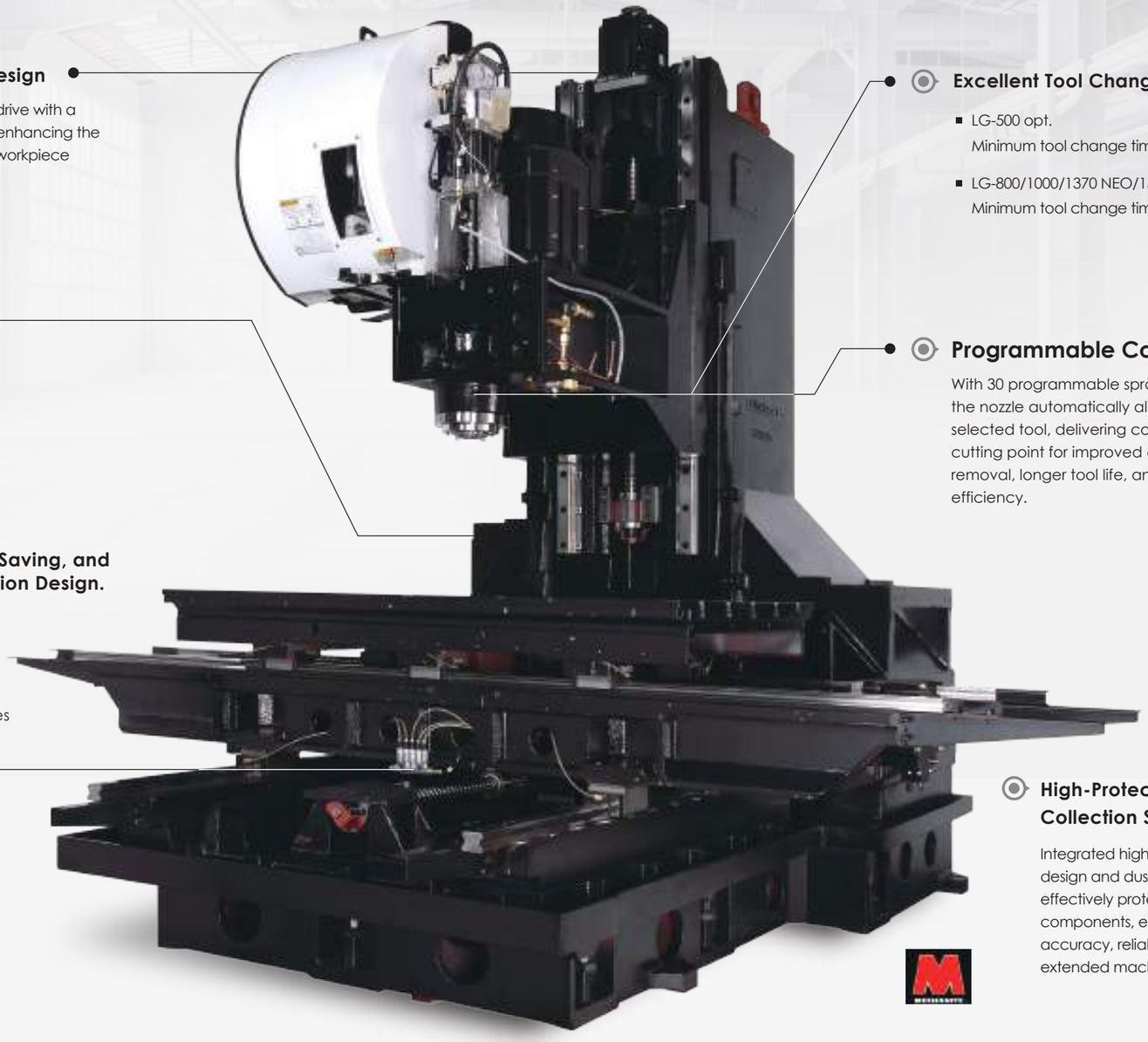
Unique Combination Design of Tool Magazine and Column

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

40T (LG-1370 NEO/1570 NEO)

Environmentally Friendly, Energy-Saving, and Carbon-Reducinggrease Lubrication Design. (LG-1370 / 1570 NEO)

Due to the low lubricant consumption, the oil replenishment intervals are extended, which not only reduces downtime for maintenance and costs but also eliminates concerns about waste oil disposal.



Excellent Tool Change Time

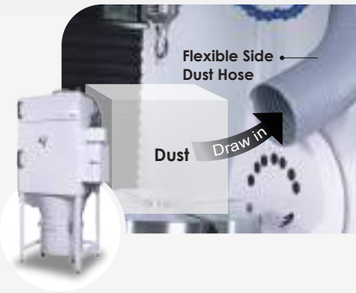
- LG-500 opt.
  Minimum tool change time is**1.18** sec
- LG-800/1000/1370 NEO/1570 NEO
  Minimum tool change time is**1.38** sec

Programmable Coolant Nozzle Opt.

With 30 programmable spray positions (1°–45°), the nozzle automatically aligns with the selected tool, delivering coolant directly to the cutting point for improved cooling, chip removal, longer tool life, and higher machining efficiency.

High-Protection Dust Collection System Opt.

Integrated high-dust-protection design and dust collection system effectively protect critical components, ensuring machining accuracy, reliable performance, and extended machine life.



5 YEAR Warranty on Guideways for All Models

Warranty coverage will not apply under following conditions :

1.Improper operation(collision)

2.Lack of regular cleaningof accumulated debris causing damage to the linear rails &carriages.

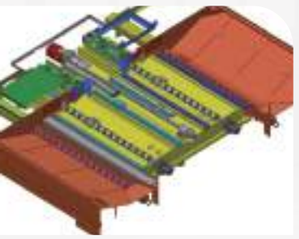
02 Machine Structure Features

Optimized structural design for stability,
non-deformation, and enduring precision.

LG-2100

Programmable Coolant Nozzle Opt.

With 30 programmable spray positions (1°–45°), the nozzle automatically aligns with the selected tool, delivering coolant directly to the cutting point for improved cooling, chip removal, longer tool life, and higher machining efficiency.

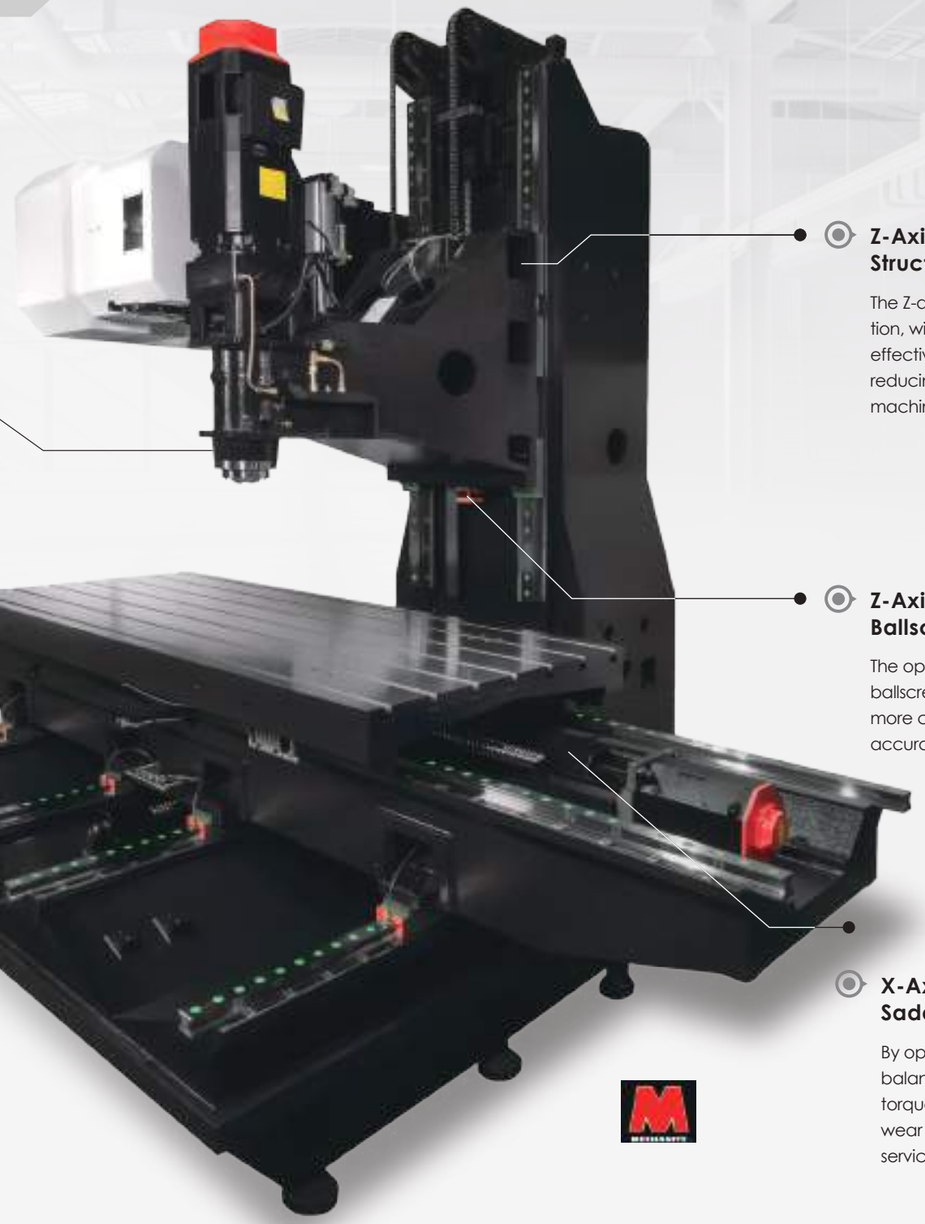


Central Four-Auger Chip Removal System

The central four-auger chip evacuation design, combined with dual-side flow guides, enhances chip removal efficiency and reduces the risk of chip accumulation.

Y-Axis Four Linear Guideways with Eight Slide Blocks Design

The linear guideways adopt high-load-capacity URH series, enhancing saddle rigidity, with a **30%** longer service life compared to the RG series.

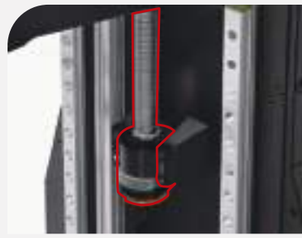


Z-Axis Six-Block High-Rigidity Structure Design

The Z-axis adopts a 55-size six-block configuration, with four blocks on top and two below to effectively distribute loads on the upper column, reducing structural deformation and enhancing machining stability and accuracy.

Z-Axis Optical Scale Close to Ballscrew Design

The optical scale is positioned close to the ballscrew, aligning the measurement reference more closely with the drive axis to improve accuracy and minimize Abbe error.



X-Axis Center-Mounted Ballscrew Saddle Design

By optimizing the transmission structure to balance left and right loads, offset loading and torque effects are reduced, helping minimize wear and vibration while extending machine service life.

Warranty on Guideways for All Models

5 YEAR

Warranty coverage will not apply under following conditions :

1.Improper operation(collision)

2.Lack of regular cleaningof accumulated debris causing damage to the linear rails &carriages.

03 Smart Factory / Intelligent Automation

One unit capable of connectingup to 10 or 20 machines

Smart i-Factory System with Superbox (Opt.)

Through i-Factory, all machinery and equipment in the factory can be connected, and the machine connections are no longer limited to Hartford. Machines from other manufacturers can also be connected for real-time visualization and management. The system is composed of five key components: real-time monitoring, production planning, alert notifications, data analysis, and remote connectivity, allowing you to move away from traditional management models and embrace a simpler and more convenient approach to factory management.

Tailored one-to-many automation planning

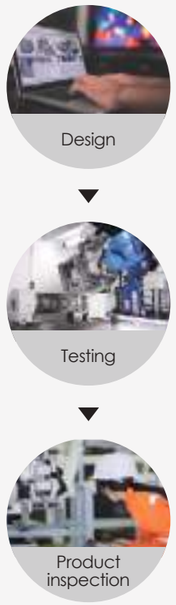
Intelligent Automated Production Line Unit (Opt.)

Customizing an automated factory just 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.



Detailed specifications please contact our sales staff.

Hartrol Premium

Hartford Smartcenter APPS

1 Automation & Smart Factory

- Autopilot V2 Package
- Real-time Monitor Package
- Efficiency Improvement Package
- Smart Lubrication System
- Machine Play – Smartphone Remote Operation
- Wireless Network Function (Wi-Fi)

2 Monitoring & Energy Management

- Real-time Monitor Package (CCD Monitor / IP Camera)
- Energy Monitoring

3 Tool Protection & Machining Stability

- Tool Protection Suite (TPS)
- AFC – Automatic Feed Control
- Rigid Tapping Automatic Learning

4 CNC Control & Operation Enhancement

- Handwheel Simulation Mode
- HP Level R1–R10 Parameter Package

5 High-Speed / High-Accuracy Machining

- SSS High-speed High-accuracy Control
- High-speed High-accuracy Control III (G5P20000)
- High Speed Milling

6 Programming & User Interface

- Conversational Programming (HCP)

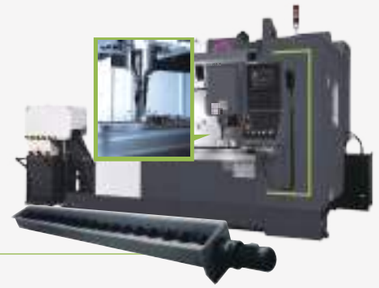
24 HR

Online Update System
Keep your operating system in optimal condition and stay up to date with the latest features from Hartford.

Hartford ZDT
Early warning before machine failure helps reduce unexpected downtime, minimizing productivity loss and cost.

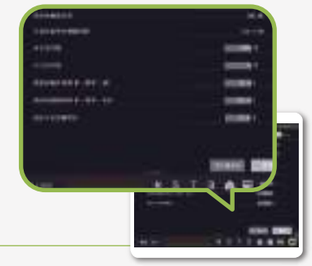
Chip Conveyor Opt.

Smart detection based on spindle current clears chips only when needed. The system runs on a 50% on/off cycle during cutting to save up to 50% motor power, and automatically reverses when chips build up to prevent overload and protect the conveyor.



Lubrication Opt.

The system smartly delivers oil based on machine and cutting conditions, saving up to 50% oil and reducing costs while supporting eco-friendly operation.

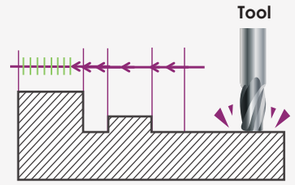


Position Opt.

When performing workpiece measurement with Hartrol Premium and Fanuc 15" IPC, operators can simply enter values through the intuitive guided interface—no need to memorize complex measurement commands, making the process effortless.

AFC Opt.

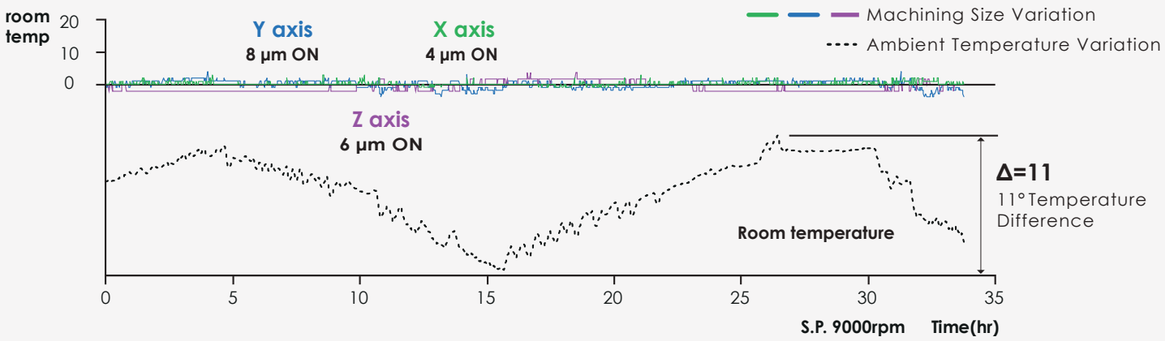
Spindle load monitoring allows users to set tool-specific load limits, boosting efficiency by up to 21% in heavy operations like face and side milling.

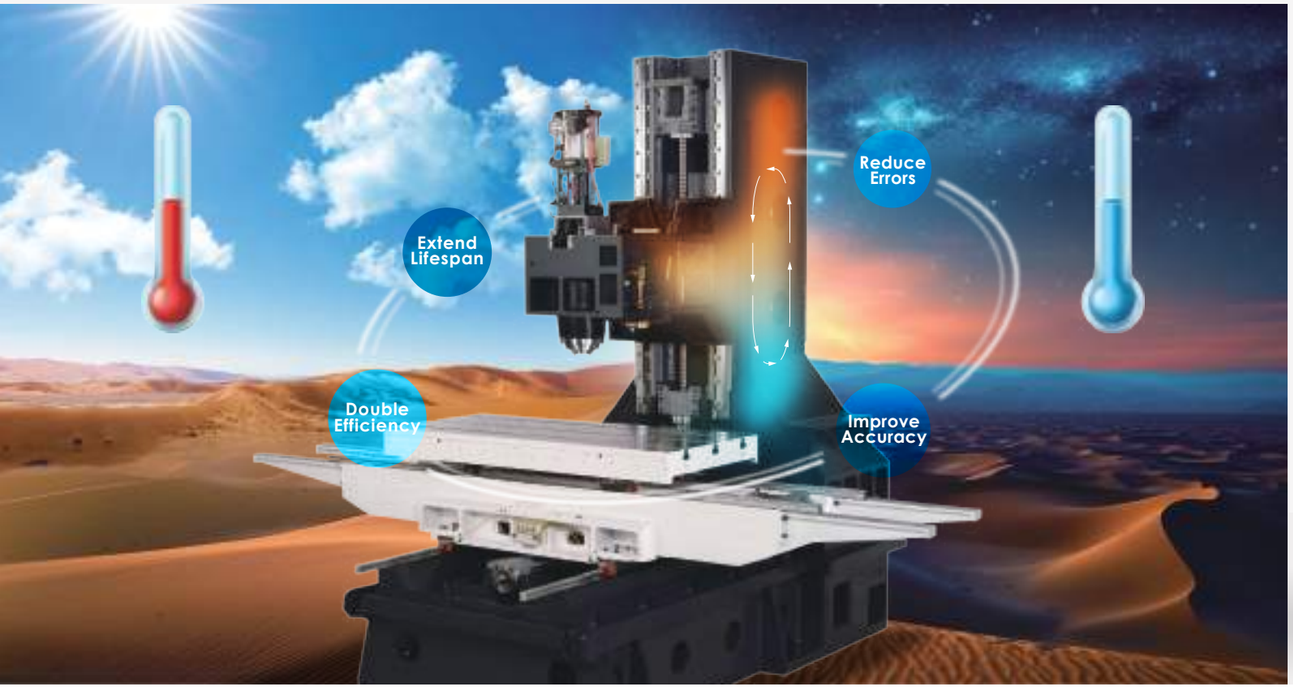


No More Thermal Drift –
Precision Machining, Zero Defects

Thermal Compensation System (Opt.)

Exclusive whole-machine ambient temperature thermal displacement compensation function ensures that machining equipment does not cause workpiece deformation due to prolonged heat accumulation, thereby maintaining machining accuracy. Additionally, it effectively reduces the time required for temperature adaptation and thermal displacement modeling across different machine models and ambient temperature variations, significantly shortening delivery time.





Eco-Friendly Solutions for Energy Management

ECO and Energy Monitoring Dashboard (Opt.)

Gas-based weight replacement instead of hydraulic
All lighting equipment is LED
FEM analysis for structural lightweight design

Energy Monitoring Dashboard

Real-time monitoring of energy consumption for each electrical component of the machine, with the ability to query historical energy consumption data and generate reports.

Eco Mode

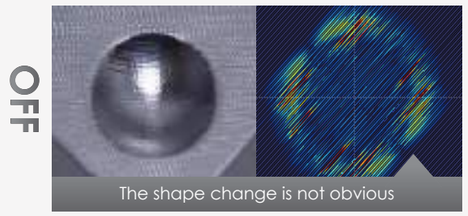
Helps you control five peripheral devices, including the hydraulic motor, oil cooler, mist collector, work lights, and chip conveyor, to prevent unnecessary energy consumption when the machine is idle.

Eliminate interference and mechanical collision issues during the machining process

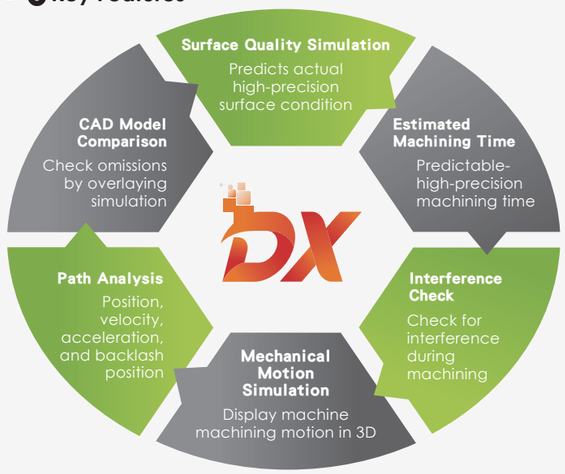
Digital Transformation (Opt.)

Digital Twin-NCVS software combines workpiece CAD, tools, and machine parameters to simulate the machining process in advance. It accurately reflects real conditions, going beyond traditional CAD/CAM by including machine data. The system verifies CNC parameter settings, analyzes part geometry and machine travel limits, and ensures alignment between programmed data and actual machine performance.. This helps prevent interference and collisions, ensuring safe, stable machining and better productivity.

▪ Simulation vs. Actual Machining Results



▪ 6 Key Features

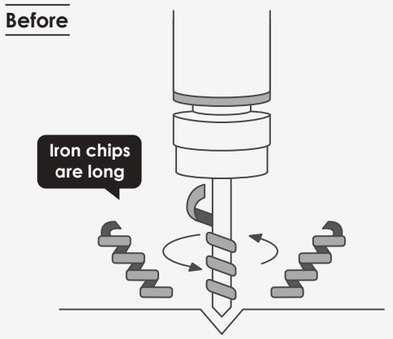


Solve the problem of chips wrapping around your cutting tool

Drilling Chip Breaker Feature (Opt.)

In deep-hole machining, the lack of effective chip-breaking can lead to issues like chips wrapping around the tool, scratching the workpiece, and making chips cleaning difficult. With Hartford's exclusive chips breaking for drilling function, chips are finely broken down, preventing them from wrapping around the tool. This ensures the workpiece remains intact, chips are easily cleaned, productivity is increased.

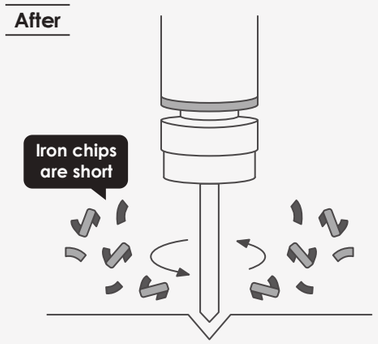
Before



▲ **Function Off**

Long iron chips cannot be effectively broken into manageable chips.

After



▲ **Function On**

Effectively breaks long chips into short chips for improved chip control.

05 Ergonomic Design

User-Friendly Design for Easy Operation and Maintenance

Ergonomic Design

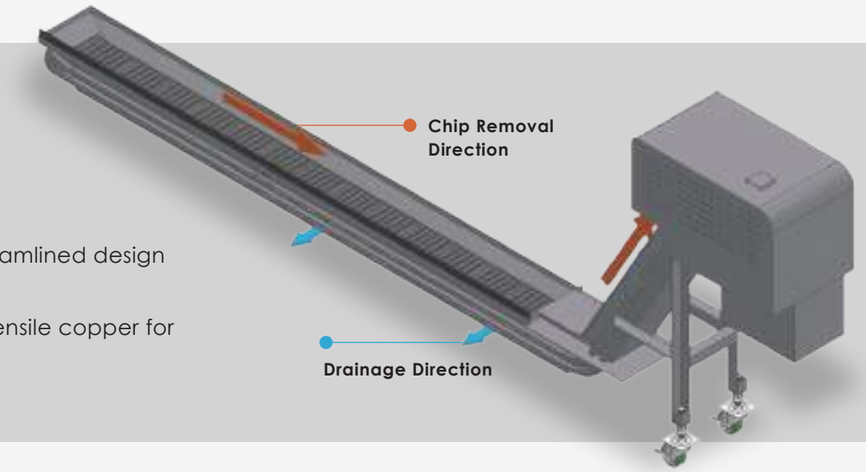
Designed From the User's Perspective for a Smoother Operating Experience

Hartford places strong emphasis on the operator's practical needs in machine design. From control interface layout, viewing height, and door opening style to daily maintenance access and loading/unloading workflow, every detail is developed with ergonomics at its core.

1 User-Friendly Control Panel Design

1.The center of the controller screen is **170cm** above the ground, allowing the operator to view it at eye level.

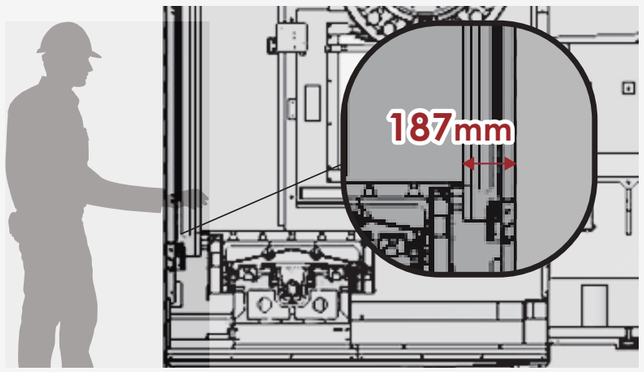
2.The LG-800 / 1000 inward-rotating and LG-1370 / 1570 NEO suspension-type operation boxes are rotatable for ease of use.



2 Chain Plate Conveyor

1.The machine features a streamlined design for smoother chip removal.

2.The chain is made of high-tensile copper for greater strength.



3 Ergonomically Designed

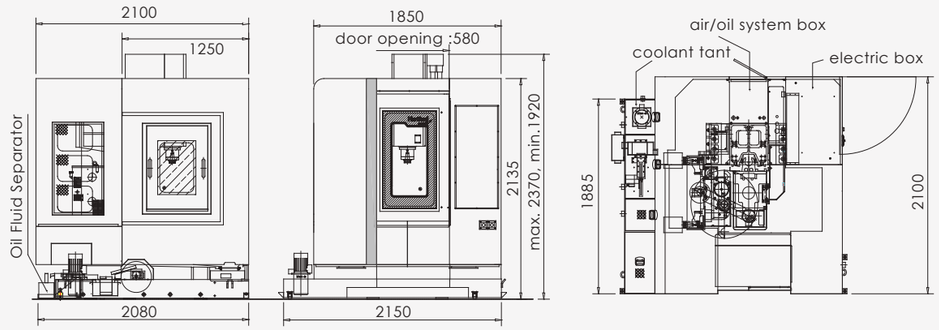
Distance between the workbench and the outer cover sheet metal

LG-500：299 mm
LG-800：399.5 mm
LG1000：399.5 mm
LG-1370/1570 NEO：187 mm
LG-2100：355 mm

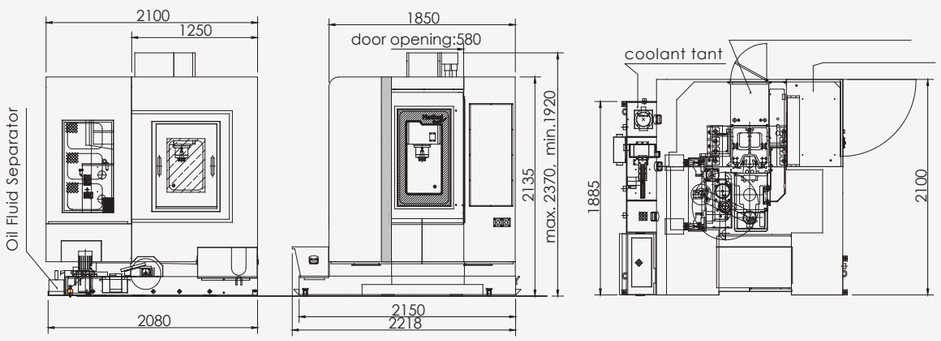
06 Machine Dimensions

LG-500

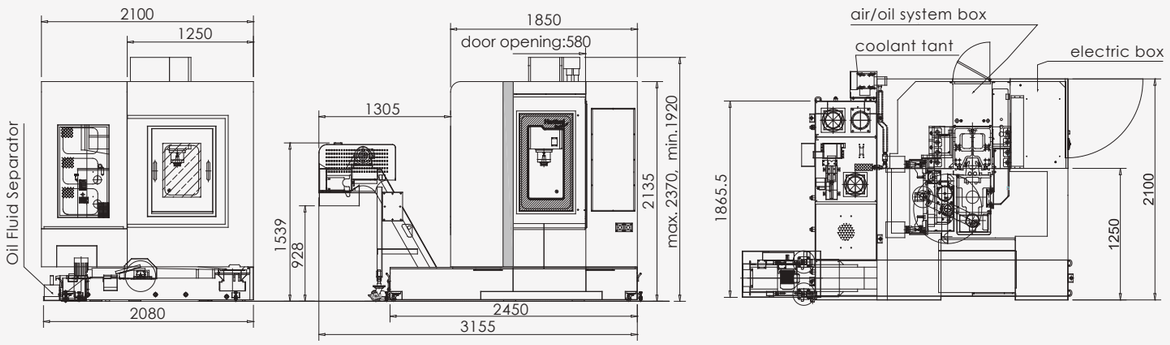
■ Chip collecting tank type



■ Front Screw Type Chip Conveyor

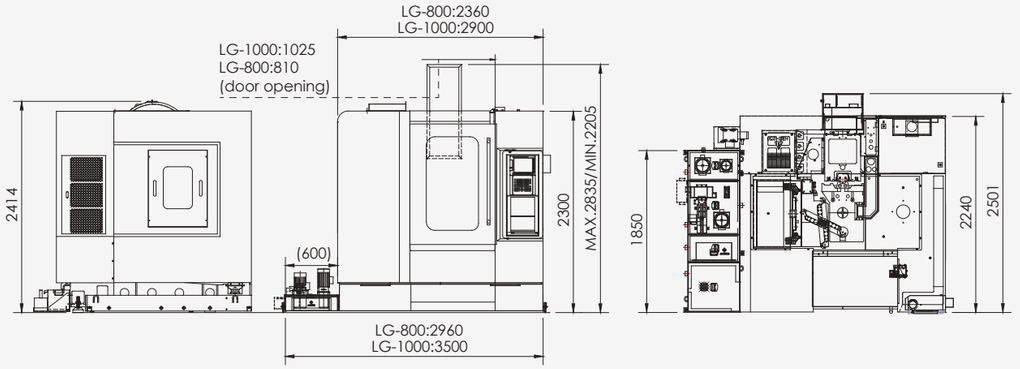


■ Link Type Chip Conveyor

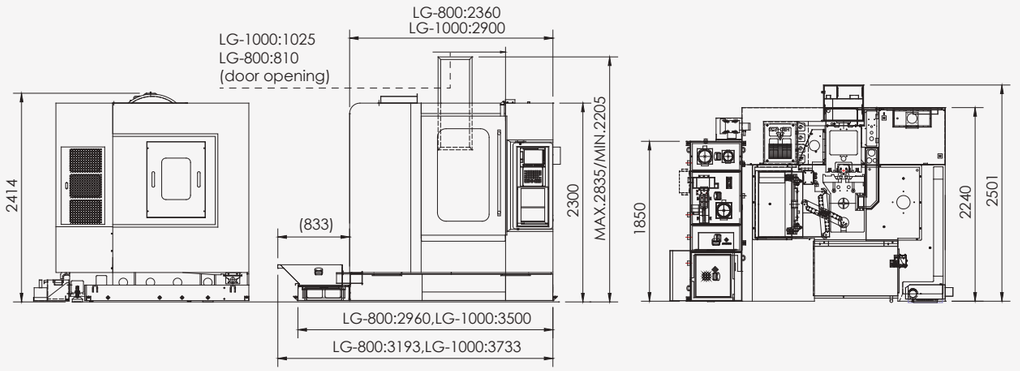


LG-800 / 1000

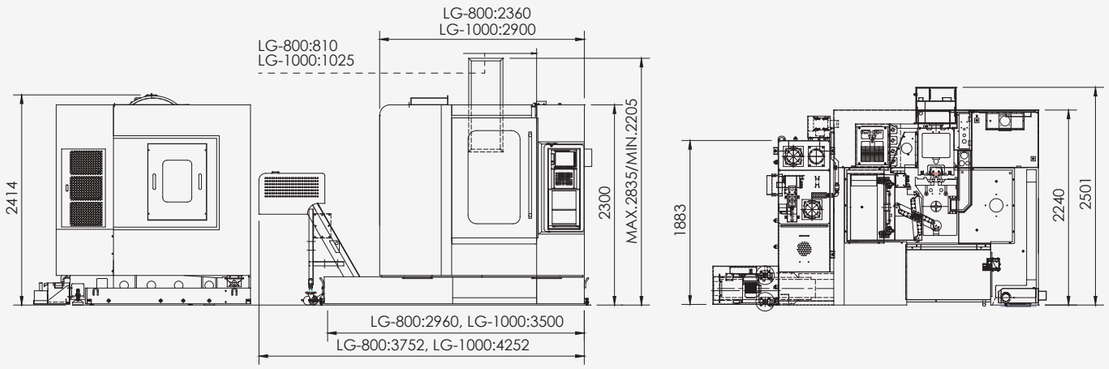
■ Chip collecting tank type



■ Front Screw Type Chip Conveyor



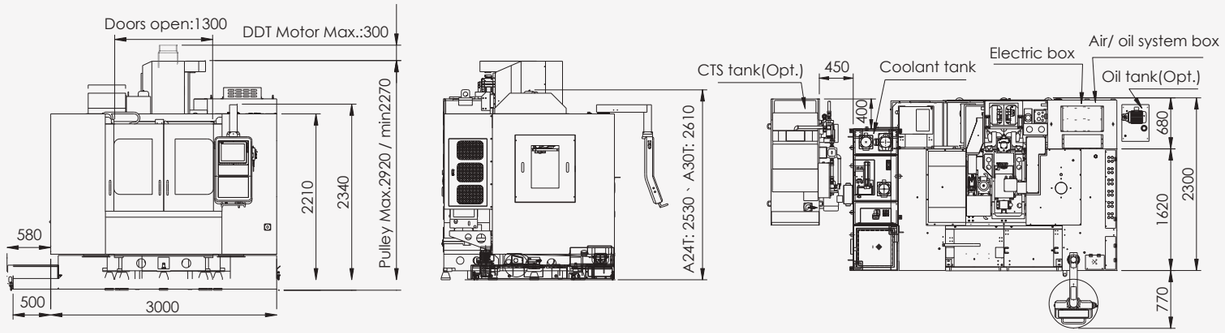
■ Link Type Chip Conveyor



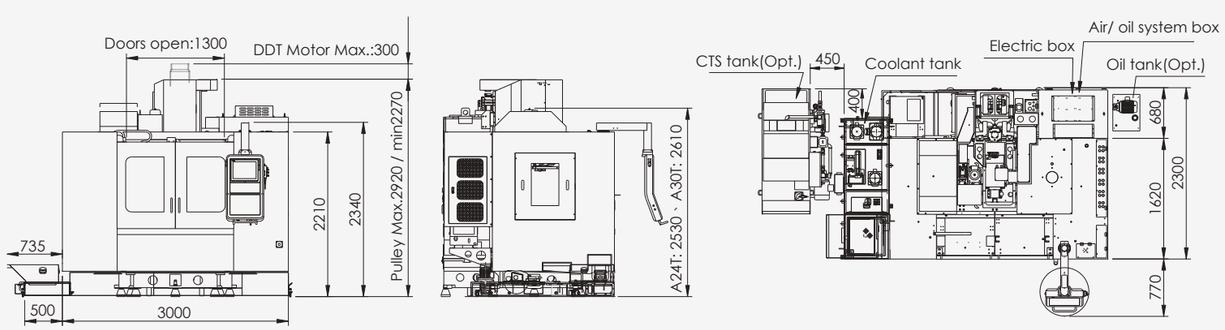
06 Machine Dimensions

LG-1370 NEO

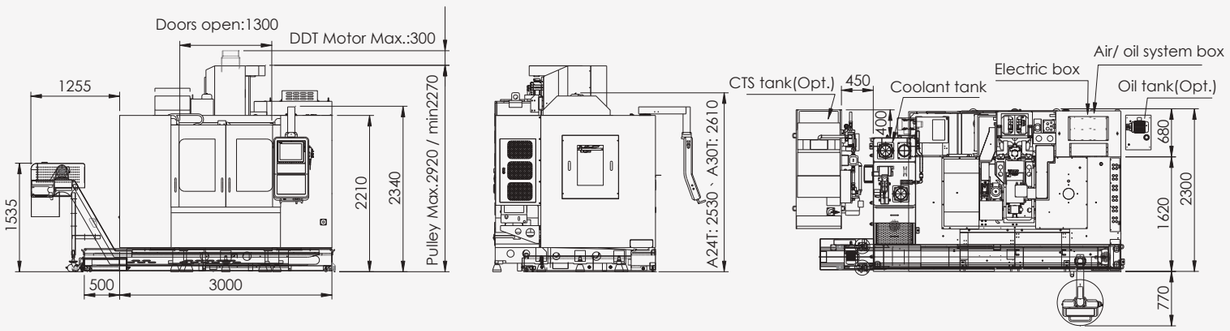
■ Chip collecting tank type Profile Drawing



■ Front Screw type chip conveyor Profile

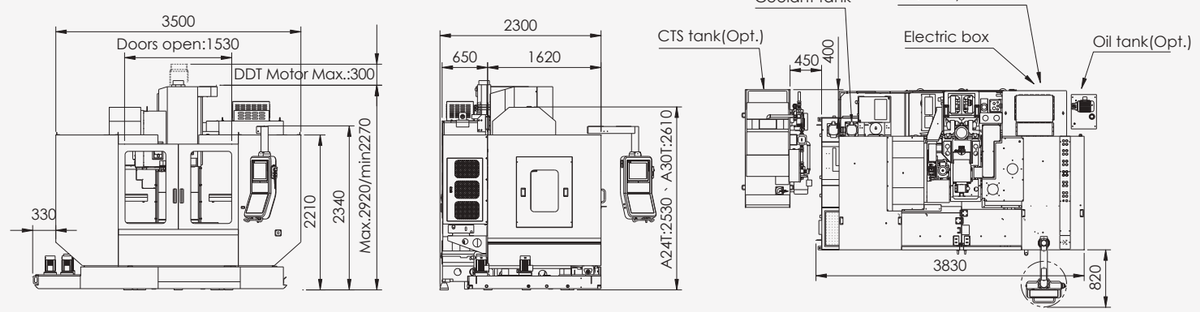


■ Link Type Chip Conveyor Profile Drawing

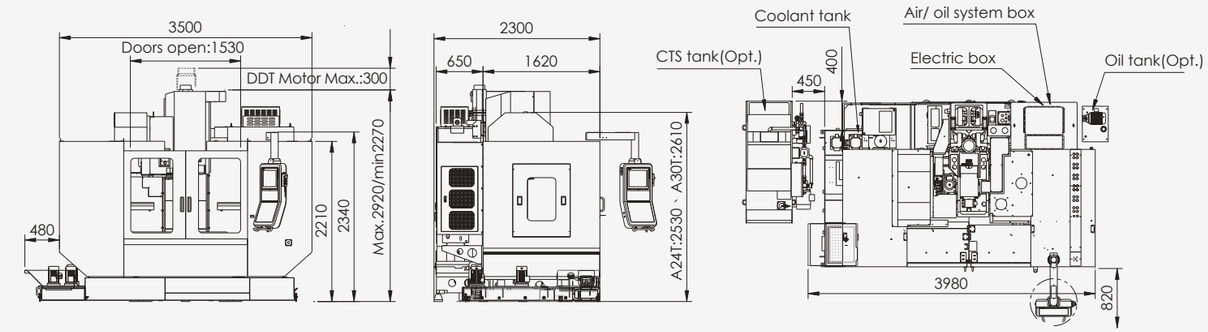


LG-1570 NEO

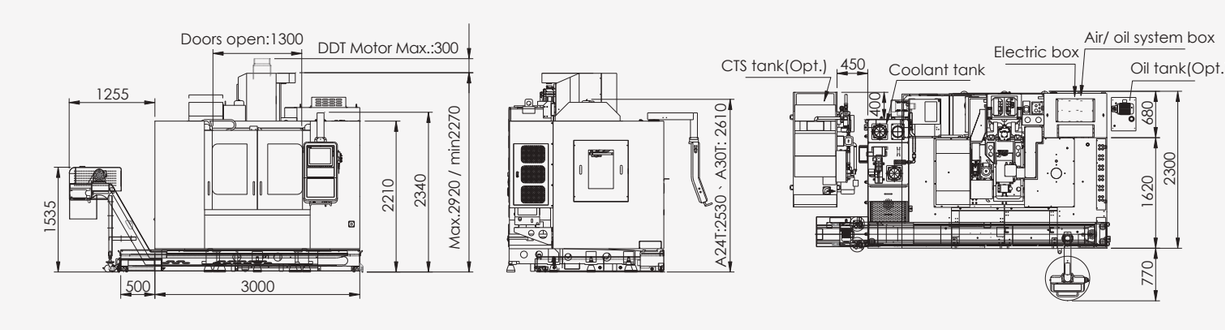
■ Chip collecting tank type Profile Drawing



■ Front Screw type chip conveyor Profile



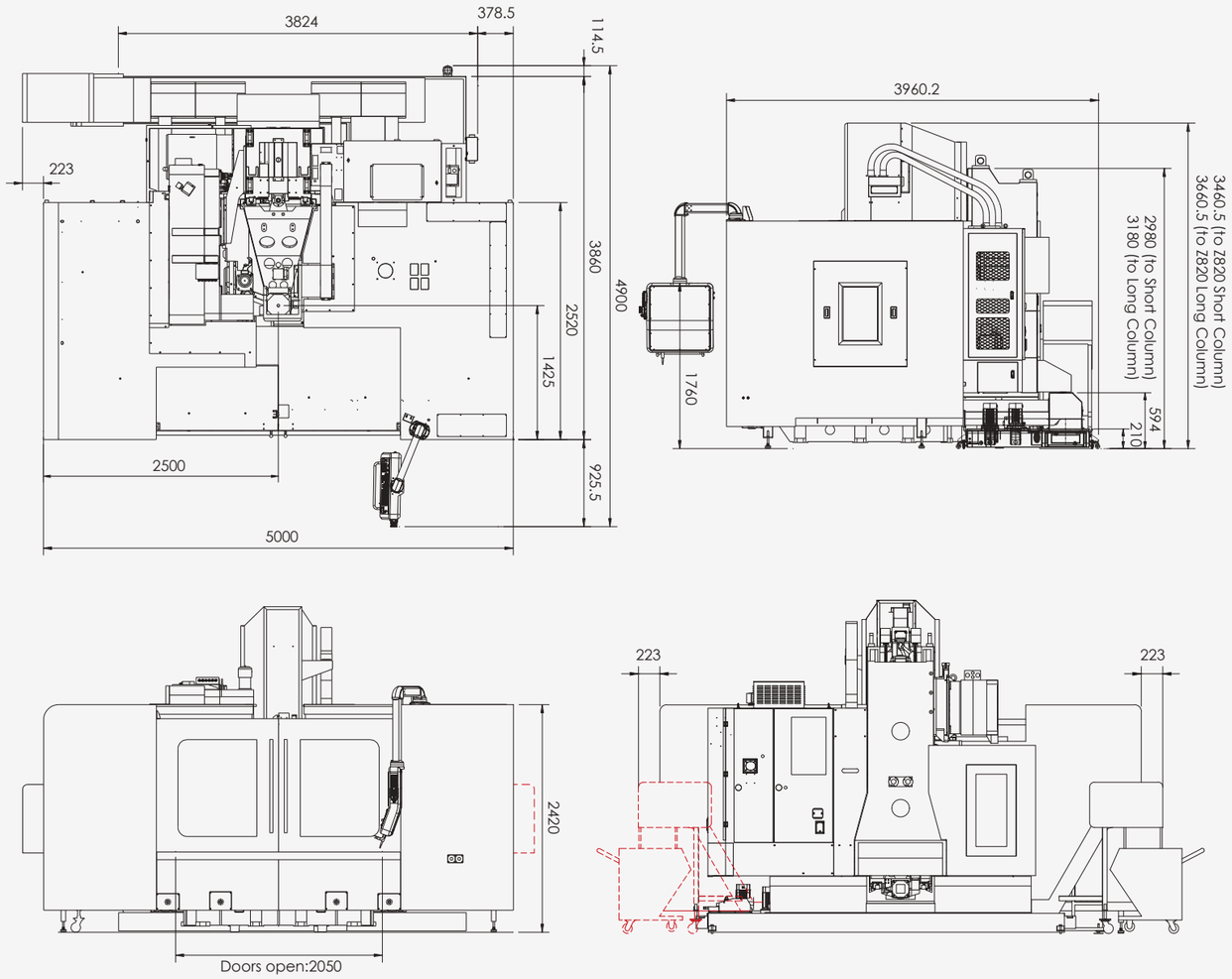
■ Link Type Chip Conveyor Profile Drawing



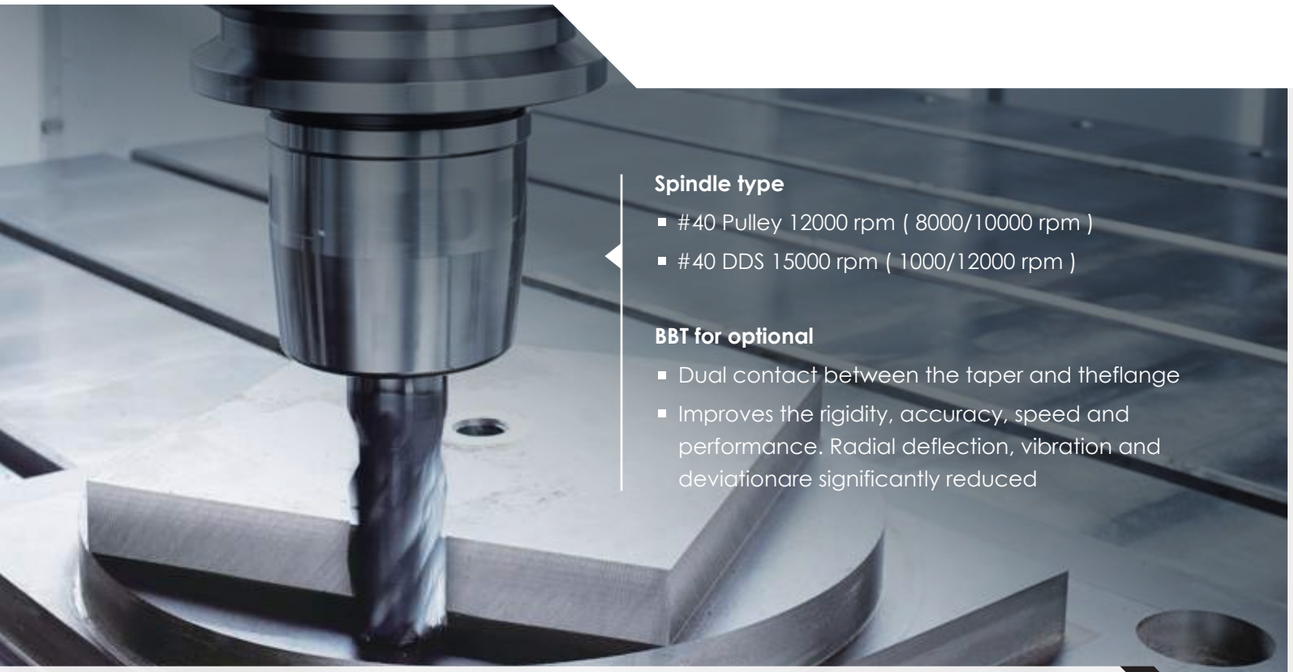
06 Machine Dimensions

LG-2100

■ **Link Type Chip Conveyor Profile Drawing**
(Chip conveyor configurable on either the left or right side)



07 Actual Cutting Tests / Spindle Torque Diagrams



Spindle type

- #40 Pulley 12000 rpm (8000/10000 rpm)
- #40 DDS 15000 rpm (1000/12000 rpm)

BBT for optional

- Dual contact between the taper and theflange
- Improves the rigidity, accuracy, speed and performance. Radial deflection, vibration and deviationare significantly reduced

Optimized performance for speed and cutting efficiency

Model：LG-2100

- Spindle：12,000 rpm#40 DDS type15kw
- Cutting material：S45C

Face milling		End Milling		Tapping		Drilling	
Tool diameter	Ø 80 mm	Tool diameter	Ø 63 mm	Tool diameter	M24 × P2.5	Tool diameter	Ø 38 mm
Feed rate	4,500 mm/min	Feed rate	5,000 mm/min	Feed rate	500 mm/min	Feed rate	150 mm/min
Cutting depth	3 mm	Cutting depth	30 mm	Cutting depth	36 mm	Cutting depth	38 mm
Cutting width	64 mm	Cutting width	5 mm	Spindle speed	200 rpm	Spindle speed	1,000 rpm
Cutting volume	864 cc/min	Cutting volume	750 cc/min				

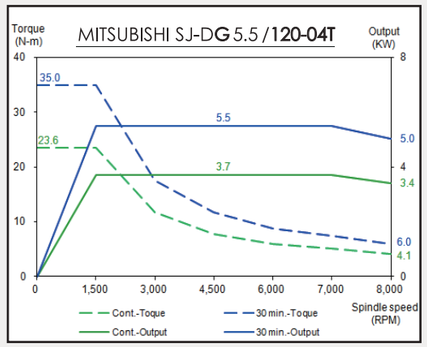
Model：LG-1570 NEO

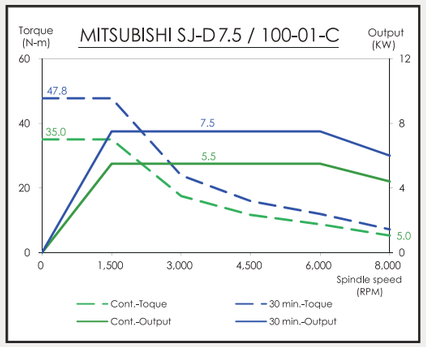
- Spindle：1,2000 rpm#40 Pulley type15kw
- Cutting material：S45C

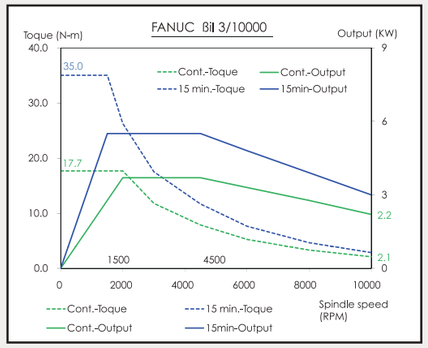
Face milling		End Milling		Tapping		Drilling	
Tool diameter	Ø 80 mm	Tool diameter	Ø 63 mm	Tool diameter	M20 x P2.5	Tool diameter	Ø 36 mm
Feed rate	1,850 mm/min	Feed rate	2,000 mm/min	Feed rate	750 mm/min	Feed rate	75 mm/min
Cutting depth	2 mm	Cutting depth	30 mm	Cutting depth	30 mm	Cutting depth	40 mm
Cutting width	65 mm	Cutting width	2 mm	Spindle speed	300 rpm	Spindle speed	500 rpm
Cutting volume	240 cc/min	Cutting volume	120 cc/min				

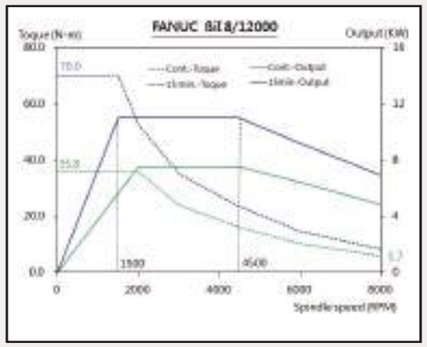
Spindle torque diagrams

■ **LG 500 / 800 / 1000 / 2100**

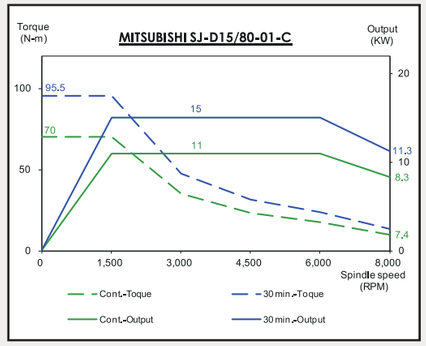


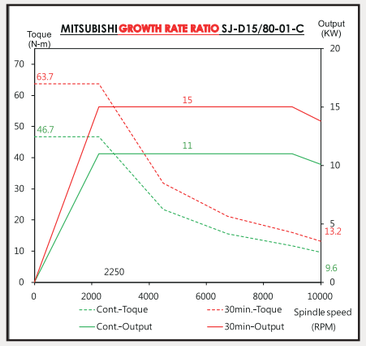


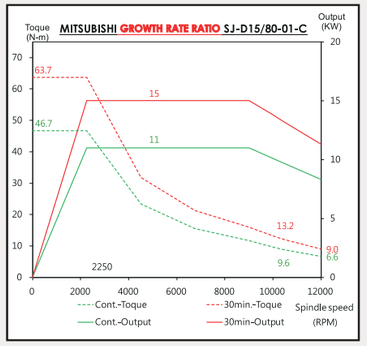




■ **LG 1370 / 1570 NEO Pulley**







All the results featured in this calogue were produced under shich testing condilion in a special zed testing enviroment.
Under dfferent festing conditions and in less than ideal tesing environments. That the rest results vary fom those shown in this catalogue.

08 Machine Specifications

		Unit	LG - 500	LG - 800	LG - 1000	LG - 1370 NEO	LG - 1570 NEO	LG - 2100
Table	Working surface	mm	620 X 420	950 X 510	1150 X 510	1400 X 700	1600 X 700	2150 X 1020
	T-slot Width x pitch(number)	mm	18 X 130(3)	18 X 160(3)	18 X 160(3)	18 X 125(5)	18 X 125(5)	20 X 150(7)
	Max.load (Average)	kg	300	500	700	1000	1000	2500
Travel	X-axis travel	mm	520	800	1000	1300	1500	2050
	Y -axis travel	mm	420	510	510	700	700	1020
	Z -axis travel	mm	450	630	630	650	650	820
	Distance from spindle to table	mm	100~550	100~730 opt.300~930	100~730 opt .300~930	150~800 opt.350~1000	150~800 opt.350~1000	200~1020
	Distance from spindle center to column	mm	460	562.5	562.5	744	744	1104
Spindle	Spindle nose taper	rpm	#40	#40	#40	#40	#40	#40
	Spindle speed(Pulley)	rpm	8000/10000/12000	8000/10000/12000	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	10000/12000/15000	10000/12000/15000
	Maximum Spindle Power	kW	P12K : 7.5(con)/11(S3-25%)	P12K : 7.5(con)/11(S3-25%)	P12K : 7.5(con)/11(S3-25%)	P12K : 15(con)/18.5(S3-60%)	P12K : 15(con)/18.5(S3-60%)	P12K : 15(con)/18.5(S3-60%)
			D15K : 7.5(con)/11(S3-25%)	D15K : 7.5(con)/11(S3-25%)	D15K : 7.5(con)/11(S3-25%)	D15K : 15(con)/18.5(S3-40%)	D15K : 15(con)/18.5(S3-40%)	D15K : 15(con)/18.5(S3-40%)
	Maximum Spindle Torque	N-m	P12K : 47.8(con)/70.0(S3-25%)	P12K : 47.8(con)/70.0(S3-25%)	P12K : 47.8(con)/70.0(S3-25%)	P12K : 95.5(con)/117.8(S3-60%)	P12K : 95.5(con)/117.8(S3-60%)	P12K : 95.5(con)/117.8(S3-60%)
			D15K : 47.8(con)/70.0(S3-25%)	D15K : 47.8(con)/70.0(S3-25%)	D15K : 47.8(con)/70.0(S3-25%)	D15K : 70.0(con)/95.5(S3-45%)	D15K : 70.0(con)/95.5(S3-45%)	D15K : 70.0(con)/95.5(S3-45%)
Feed	Cutting feedrate(X/Y/Z)	m/min	10/10/10	12/12/12	12/12/12	15/15/15	15/15/15	20/20/20
	Rapid traverse rate (X/Y/Z)	m/min	32/32/32 opt. 40/4040	40/40/32	40/40/32	30/30/24 opt. 40/40/30	30/30/24 opt. 40/40/30	30/30/24
ATC	Capacity	pcs	A:24	A:24(30)	A:24(30)	A:24(30/40)	A:24(30/40)	40
	Max.tool weight	kg	7	7	7	7	7	7
	Max.tool size(dia.x length)	mm	A:Ø80x200L	A: Ø75x300L	A: Ø75x300L	A: Ø75x300L	A: Ø75x300L	A: Ø75x300L
	Tool shank		BT40(BBT/CAT/DIN)	BT40(BBT/CAT/DIN)	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)	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	5.5/7.5 opt. 7.5/11	11/15 opt. 15/18.5	11/15opt. 15/18.5	15/18.5
Positioning Accuracy	Positioning accuracy (JIS B6330), without linear scale	mm	±0.008	±0.008	±0.008	±0.008	±0.008	±0.018
	Repeatability (JIS B6330), without linear scale	mm	±0.002	±0.002	±0.002	±0.003	±0.003	±0.010
	Positioning accuracy (JIS B6330), with linear scale	mm	±0.006	±0.006	±0.006	±0.006	±0.006	±0.010
	Repeatability (JIS B6330),with linear scale	mm	±0.002	±0.002	±0.002	±0.002	±0.002	±0.003
	Positioning accuracy (VDI 3441)	mm	0.010	0.010	0.010	0.014	0.015	±0.008
	Repeatability(VDI 3441)	mm	0.006	0.006	0.006	0.008	0.010	±0.003
Other	Required air pressure	kg/cm²	6.5	6.5	6.5	6.5	6.5	6.5
	Electric power requirement	KVA	10~25	10~30	10~30	20~40	20~40	20~45
	Machine weight	kg	3330	4300	4530	7500	8500	15000
	Coolant tank(standard)	L	237	260	285	286	286	480
	Machine dimension(LxWxH)	mm	2100 X 1850 X 2370	2360 X 2240 X 2790	2900 X 2240 X 2790	3000 X 2270 X 2913	3500 X 2270 X 2913	5000 X 3638 X 3450
	Floor space(standard tank)	mm	2100 X 2250	2960 X 2510	3500 X 2510	3500 X 2270	3830 X 2270	5000 X 4950

Electrical Function

Standard

Hartrol

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

Optional

Hartnet

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

Electrical Function

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

Specifcations & dimensions are subject to change without notice (for actual weight, shipped product shall prevail.)