

Accessories

Standard : ● Optional : ★

Description	Model	HMC-6/600	HMC-8/800	HMC-10/1000
1.Full-Enclosed Splash Guard		●	●	●
2. 50 ARM Type ATC		●	●	●
3.Cooling System		●	●	●
4.Coolant Jets Around Spindle		●	●	●
5.Spindle Air Curtain		●	●	●
6.Air Blast Through Spindle		●	●	●
7.Lubrication System		●	●	●
8.Fluorescent Lamp x2		●	●	●
9.Foundation bolt, General		●	●	●
10.Spindle Oil Cooler		●	●	●
11.X, Y, Z-Axis Ball Screw Enforce Pressure		●	●	●
12.Link Type Chip Conveyor & Portable Chip Bucket(1 EA)		●	●	●
13.Screw type chip conveyor		●	●	●
14.Oil Fluid Separator		●	●	●
15.Tool package		●	●	●
16.Individual machine manual		●	●	●
17.Auto Power off		●	●	●
18.B-axis coupling (1 degree)		●	●	●
19.#50 ARM Type ATC(30 PCS)		-	●	●
20.#50 ARM Type ATC(40 PCS)		●	★	★
21.#50 ARM Type ATC(60 PCS)		★	★	★
22.Mist Coolant System		★	★	★
23.Oil Mist Collector System		★	★	★
24.Coolant Through Spindle, Prepare		★	★	★
25.Coolant Through Spindle(20 BAR)		★	★	★
26.Coolant Through Spindle(25 BAR)		★	★	★
27.Coolant Through Spindle(70 BAR)		★	★	★
28.Coolant Through Spindle(40 BAR)		★	★	★
29.Coolant Flushing Device (Power : 1.5 HP)		★	★	★
30.Coiling Tube Coolant gun		★	★	★
31.Air Gun		★	★	★
32.Rotary window		★	★	★
33.Individual machine manual x 2		★	★	★
34.Individual machine manual x 3		★	★	★
35. Individual machine manual x 4		★	★	★
36.Closed Loop Linear Scale Positioning System		★	★	★

Electrical

Standard-Electrical

- M code display
- PLC bit setting screen
- Tool comment
- Hole pattern
- Face milling cycle
- Side milling cycle
- Pocketing cycle
- Round cutting
- Workpiece calibration (Manually)
- Spindle load monitor
- High speed, high accuracy parameter screen
- Tool magazine display

Optional-Electrical

- DNC software
- Lifting function against gravity
- Intelligent MPG

Website



Facebook



Hartford
EXCLUSIV
Hartrol Plus APP

Intelligent Machining Center

HMC Series Smartcenter

- Hartrol plus controller
- 5-Year warranty on guideways
- One-piece bed design
- Tool change time: 2.9sec
- Oversized column design

Hartrol Plus®
From tradition to intelligent

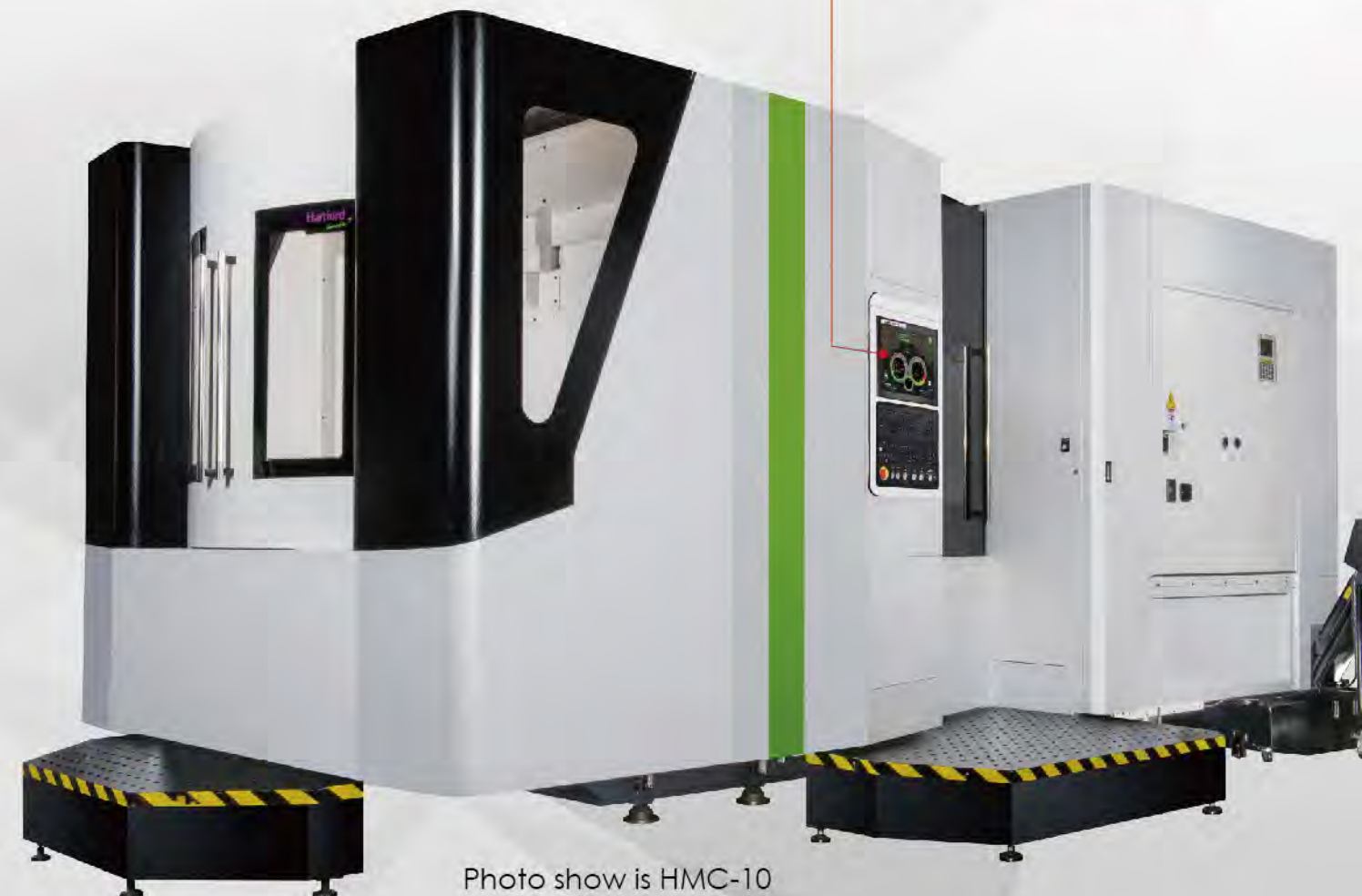


Photo show is HMC-10

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

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Hartford

Hartrol · Smartcenter · Robocell

We manufacture intelligent machines only

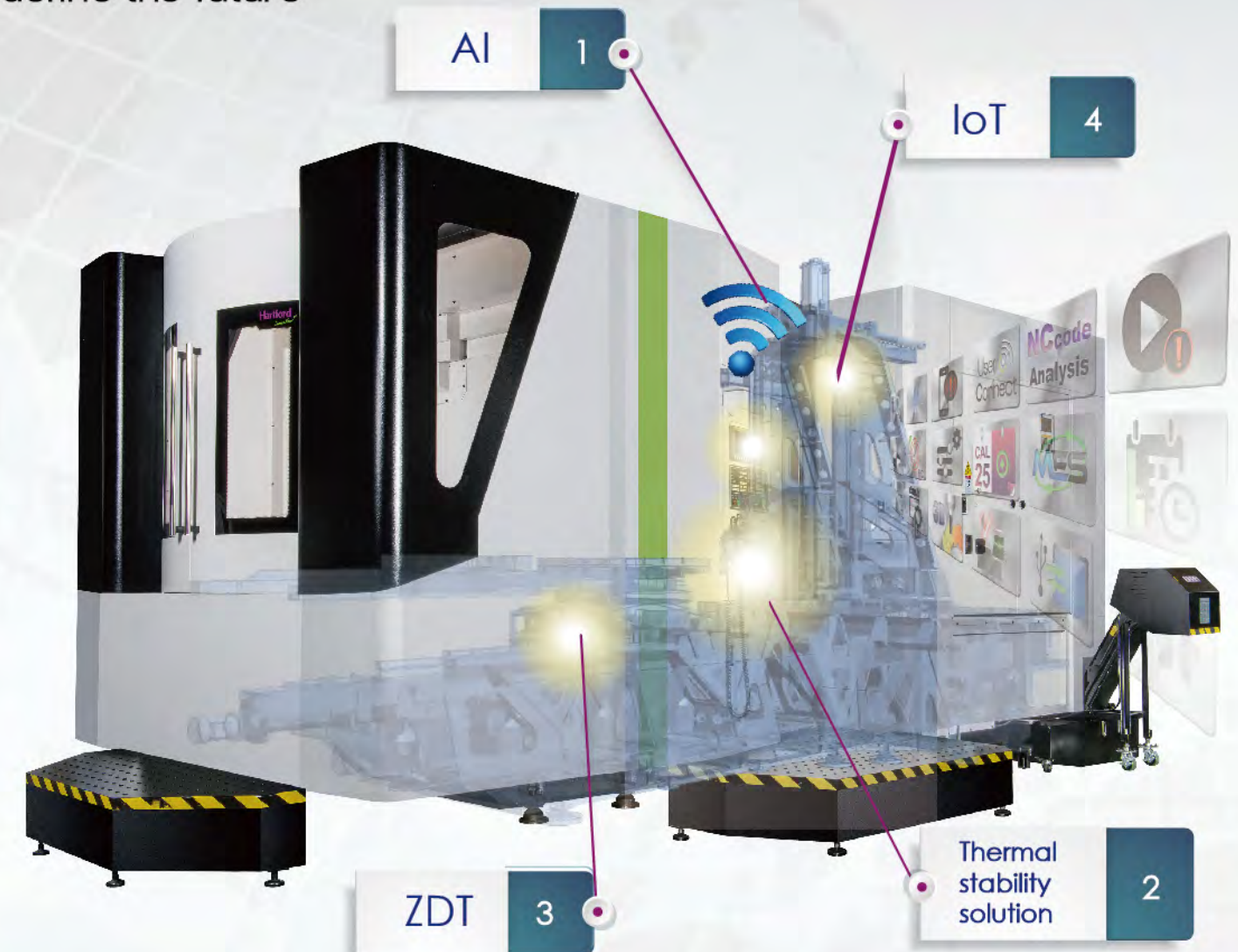
A.I. Applications inside, Hartrol Plus is the control which provides machining status with advanced features.

Imagine what future machines ought to be outlined.

AiSmartcontrol



Hartford
redefine the future



Major functions
of Hartford AI
controller



Facial
Recognition
system-Face ID



AI Environment
Thermal
Displacement
Compensation



AI Efficient
Lubrication
Management



Broken Tool
Deflection
System



Highlight on
Intelligent
Auger



AI Navi

IoT

- + Remote Warm-up & Turn-on
- + Hartrol Plus Sync & Update
- + User Connect



Thermal stability solution

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



ZDT

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



AI

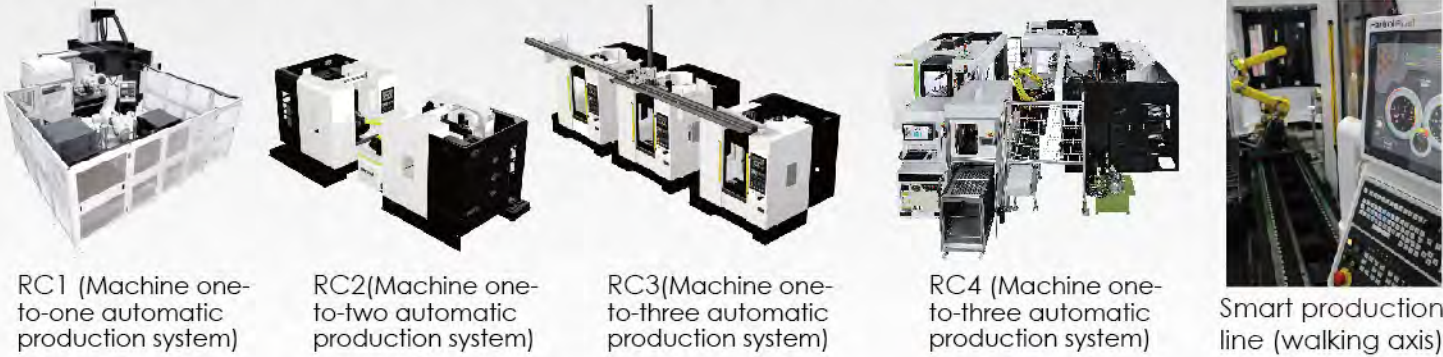
- + Facial Recognition System
- + AI Efficient Lubrication Management
- + Smart Efficient Chip Collection



How to quickly implement automation?

Hartford Robot Production Cell

Hartford has the biggest automation solution team in Taiwan. We design and plan the project by ourself. To be professional, provide rapidly response and efficient are our points. In this modern age, labor shortage is always a big problem for many companies. Hartford provides you a set of stable and efficient automatic solution project to solve your problems.



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



Complete service

- Single window process
- Professional team
- Instant solution
- Quick service



The Application of LAUREL

A perfect demonstration for machining accuracy and ability.

Underneath the compact appearance, the robust structure of LAUREL is engineered with the unique Hartford technology to decrease the cycle time and enhance your cutting efficiency.



1. Parts for motorcycle



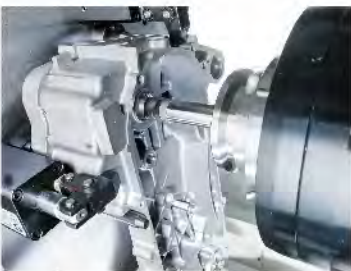
2. Hydraulic valve

Actual cutting tests

Model : HMC-6
■ Spindle: 6,000 rpm Gear type, 18.5kW ■ Cutting material : S45C



Face milling
Tool diameter Ø125 X 7
Feed rate 1,200 mm/min
Cutting depth 4 mm
Cutting width 100mm
Cutting volume 480 cc/ mm



End milling
Tool diameter Ø63 x 3
Feed rate 2,000mm/min
Cutting depth 30 mm
Cutting width 5 mm
Cutting volume 300 cc/min



Tapping
Tool diameter M30 X3.5 mm
Feed rate 420 mm/min
Cutting depth 40 mm
Speed 120rpm



Drilling
Tool diameter Ø76 x 2
Feed rate 60 mm/min
Cutting depth 40 mm
Speed 300rpm
Spindle load 100%

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 form those shown in this catalogue.

The very first step for fully intelligent machining.

What is Hartrol Plus?

Hartrol plus 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 difference between Hartrol plus and others

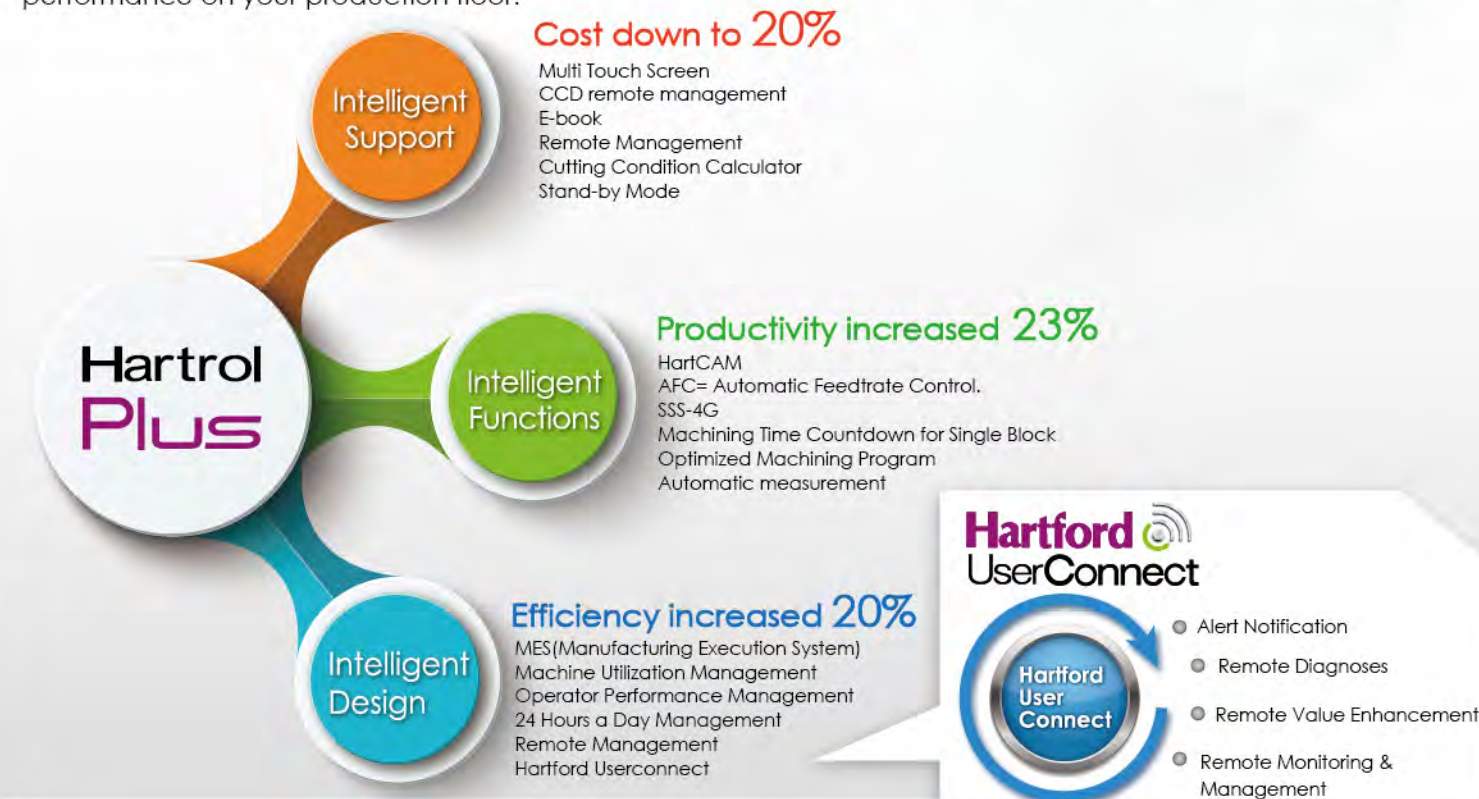
Function	Hartrol Plus P1	Others
Screen Size	19"Multi-touch Panel	10.4" (OPT:15")
Look Ahead Block	2700(G5P20000)	400(1000 Max.)
Hard Drive	32GB SSD	NO
Smoothing Interpolation	SSS 4G	Option
Industry 4.0	Hartford UserConnect	NO

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.

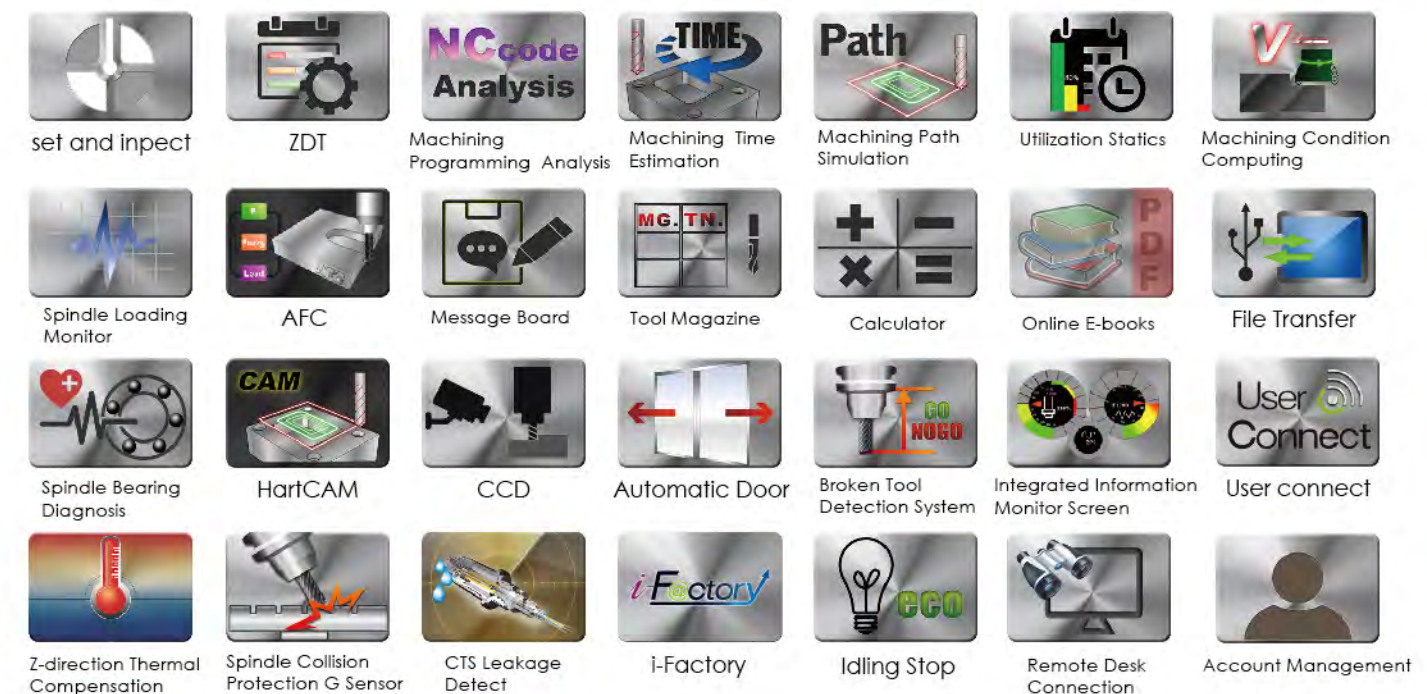


Hartford APP Store

The main technologies of Hartford smartcenter include intelligent managing system, status monitoring, alarm predicting, machine status diagnosis, crash preventing, 3D program simulation, machining efficiency improving...etc. All the intelligent functions help you control the machine status and assure the job quality.



Hartford smartcenter APP



The fuctions mentioned above will need to option the Hartrol plus controller or Dual screen with Fanuc controller.

What Hartford APP can do for you?

The integrated intelligent functions of Hartrol plus could achieve your machining requirements.
For more Hartrol Plus functions, please contact our sales person.

AI Facial recognition system(opt.)

- Face ID log-in authority
- Recognition time: **2** seconds
- Recognition accuracy: **100%**



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



AI Efficient Lubrication Management(opt.)

50% lubrication saved.

- Auto-adjustment oil supply base on machining condition.
- 50% oil consumption saved



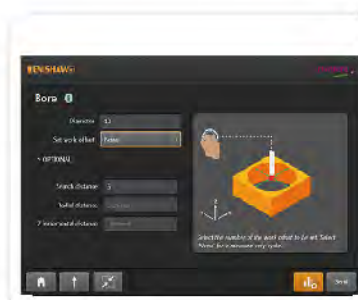
On line update

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



Graphical user interfaces for part setting, inspection, tool setting

- 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 protable device



Spindle Vibration Intelligent Monitoring System (B-Safe) is ensuring spindle stability at times(opt.)

Highlights

1. APP Vibration function is handy to set up manually.
2. Alert status on crash protection.
3. Responsive graphic is available for diagnosis by user, and analytic information is just-in-time served.

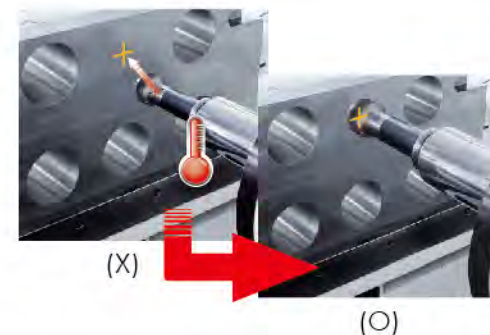


AFC(opt.)

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

- Machine without compensation
Spindle thermal extension is around 0.10mm

Notes: Above test is under room temperature

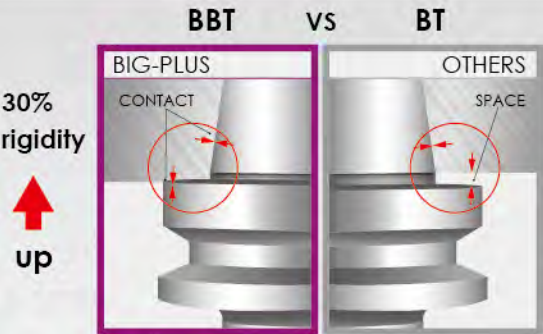


Spindles Manufactured by Hartford OfferQuality Assurance

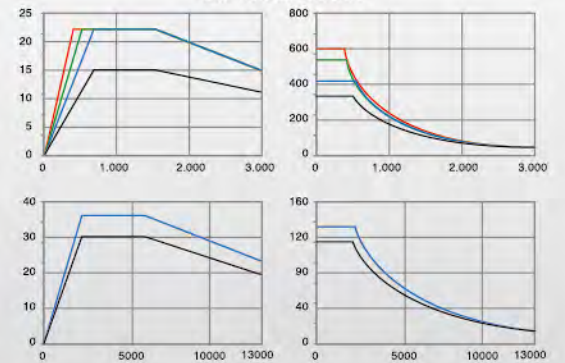
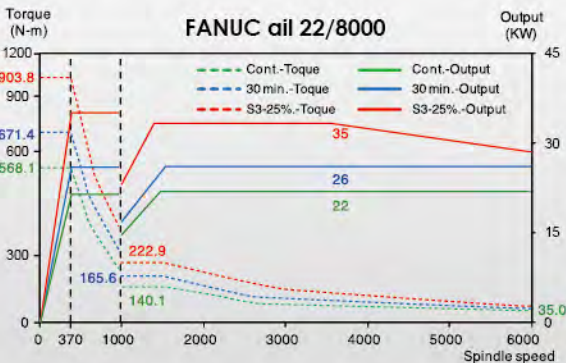
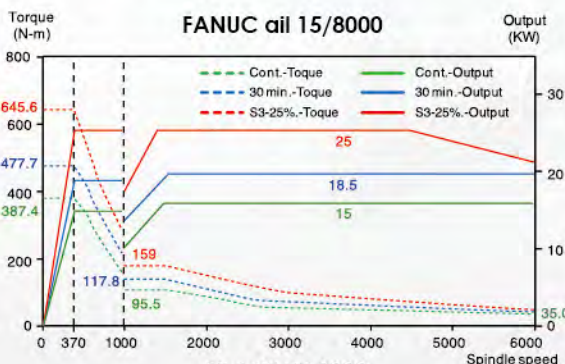
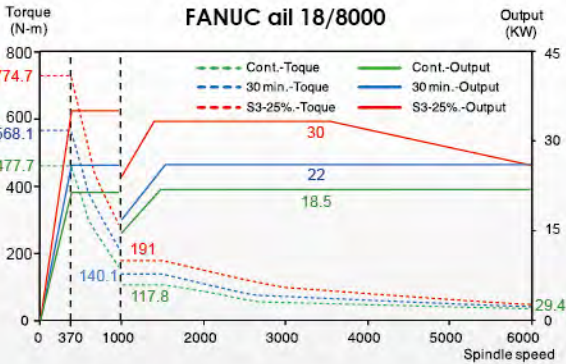
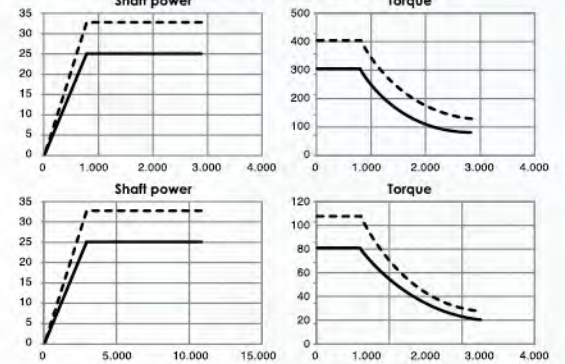
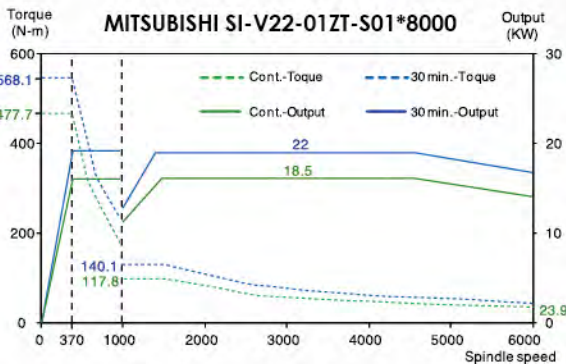
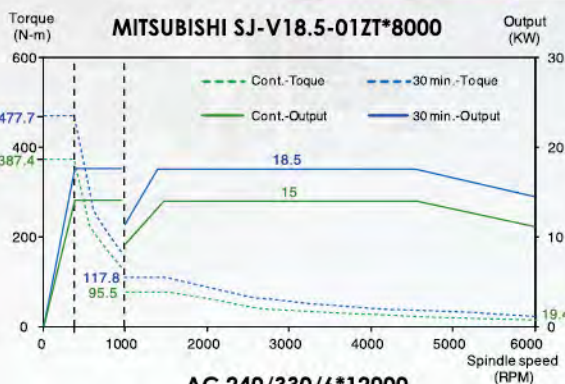
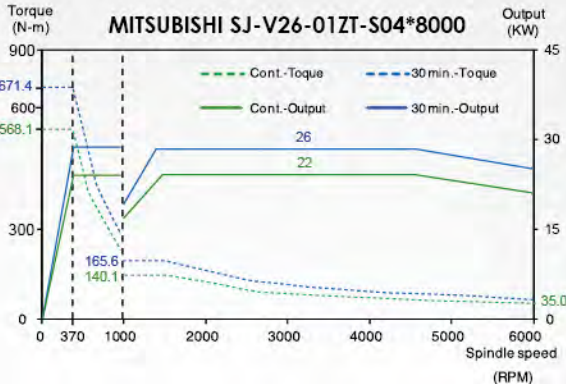
Dimensions Drawing

BBT for optional

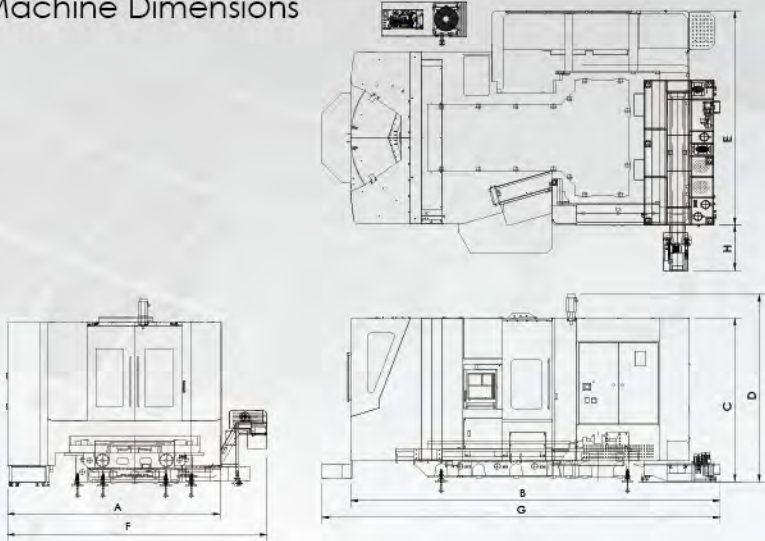
- Dual contact between the taper and the flange.
- Improves the rigidity, accuracy, speed and performance.
- Radial deflection, vibration and deviation are significantly reduced.



Spindle torque diagrams



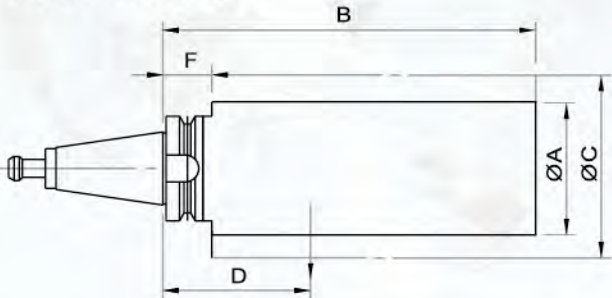
Machine Dimensions



Item	HMC-6	HMC-8	HMC-10	HMC-1000	HMC-600	HMC-800
A	3461	3518	4346	4346	3461	3518
B	5257	5883	7227	5827	5182	5466
C	3000	3032	3282	3282	3000	3040
D	3094	3393	3619	3619	3094	3393
E	3461	3518	4296	3200	3464	3521
F	3817	4727	5284	5284	3835	4966
G	-	6358	7807	7322	-	5987
H	-	-	950	950	1189	-

Unit : mm

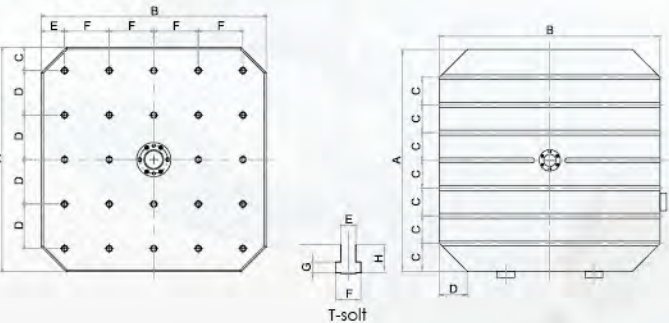
Tool dimension



Item	A	B	C	D	E	F	Max. tool mass moment
HMC-6/600	125	400	250	130	20kg	50	25.5N-m
HMC-8/800	125	500	250	130	20kg	50	25.5N-m
HMC-10	125	600	250	100	20kg	45	24.5N-m
HMC-1000	125	600	250	100	20kg	45	24.5N-m

Unit : mm

Pallet dimension



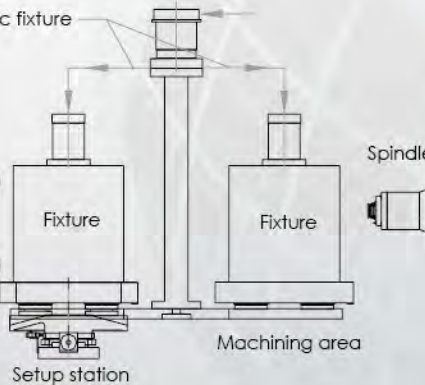
Item	A	B	C	D	E	F	H
HMC-6/600	630	630	65	125	65	125	M16x2Px25L
HMC-8/800	800	800	80	160	80	160	M16x2Px28L
HMC-10/1000	1000	1000	125	125	22	36	42

Unit : mm

Pneumatic/Hydraulic fixture control package

Pneumatic/Hydraulic fixture control package: 2+2 ports (opt.)

Pneumatic/Hydraulic fixture control package: 4+4 ports (opt.)



Item	A	B	C	D	E	F	H
HMC-10	1000	1000	125	125	22	38	42

Unit : mm

