



远州(青岛)机床商贸有限公司

GE460H/GE480H

HORIZONTAL MACHINING CENTER



MTBF5000H

Mean Time Between Failure 5000 Hours

本品是凝聚了远州客户终端5000小时无故障使用的经验,加之精湛的技术、开发和制造的可信赖性设计理念,所精心打造的一款精品加工机械。

MTBF5000H是英文Mean Time Between Failure 5000 Hours的缩写。是远州公司于2000年制定的24小时自由运行约1年时间(预计5000小时)作业无故障目标理念。但是,因客户端使用环境及操作方法原因,无故障使用是不能被绝对无条件保证的。

This is a concept of focusing Enshu's experience and technology to improve reliability in development and manufacturing for providing customers with the peace of mind of 5000 hours of trouble-free operation.

※"MTBF5000H" stands for "5000 hours of Mean Time Between Failure". This is a ENSHU concept from 2000 to perform full 24-hour trouble-free operations for one year (assumed as 5000 hours). Provided the machines are operated and maintained in accordance with ENSHU's recommended procedures, this performance can be expected, but it is not the one to guarantee it.

向MTBF新基准努力——

- ◎XY轴滑动单元采用最新型的滚轮导轨,更加能够保证精度的稳定。
- ◎全轴都是带缩放仪的伸缩盖,以及带有可以盛装大量的切屑排泄的槽,以确保广阔范围的切屑排出作业无故障。

节能30%的环保型设计,实现了节省运转成本。

- ◎采用不用时断电措施,节省电源。
- ◎积极采用节能型机器设备。
- ◎节约占地,外观设计人性化。

Achieving the MTBF new standards—

- All axes have new telescopic cover for high speed and wide trough to eliminate problems with handling massive amounts of cutting chips.

Environmentally friendly with energy-saving of 30% Lower running costs.

- The energy saving functions in which an unnecessary electric power was suppressed are adopted.
- The equipments for energy saving are positively adopted.
- It made it to healthy externals and space-saving.



90M/min

卧式加工中心

GE460H / GE480H

HORIZONTAL MACHINING CENTER

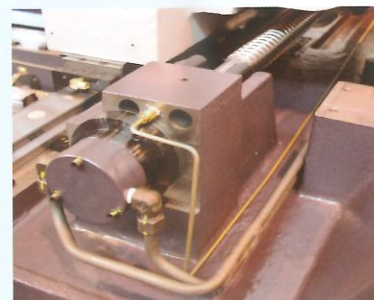
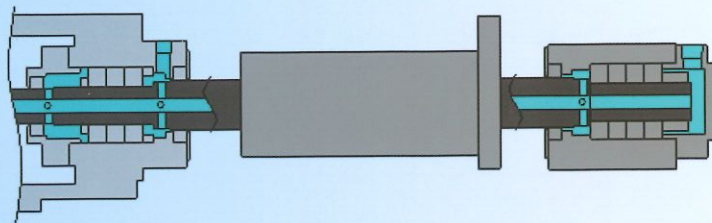
提倡MTBF5000H20年以来，
我们有在此基础上树立了MTTR理念，即可应对量产生产线的大型加
工中心。实现省钱、节能、少占地，满足客户的不同需求。

Machining center for mass production based on the new MTBF standard
and MTTR concept. Energy-saving, cost-saving and floor space-saving,
this machine satisfies customer's demand at a high level.

快速进给

Rapid feedrate

90M/min



● 高速快速进给

因为全轴滚珠丝杠及电机连接部位采用冷却处理, 确保了定位的准确性。本品还使用了FEM分析法, 实现了产品的高刚性及立柱的轻量化。通过移动行程来自动变更快速进给速度、加速度, 这样就缩短了以往的机种的定位时间。

· High speed rapid feedrate

Liquid chilled fluid for ball screw and motor mounts enables high precision operation. 3D-FEM analysis for more efficient moving components. The rapid feedrate and the acceleration were changed according to moved distance automatically, and shortening the positioning time was achieved from the conventional model.

主轴

Spindle

● 主轴种类多达3种

● 采用高信赖度油压润滑

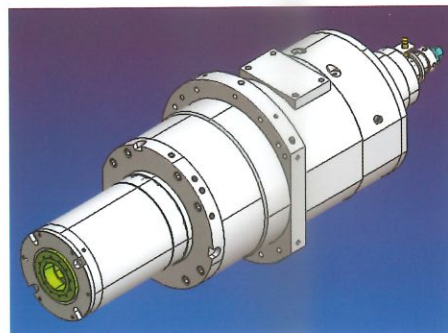
● 冷却线路最合理化, 防止发热

· Wide variety for spindle 7000/12000/15000

· Highly reliable oil-air lubrication

· Optimized cooling circuit to prevent thermal displacement

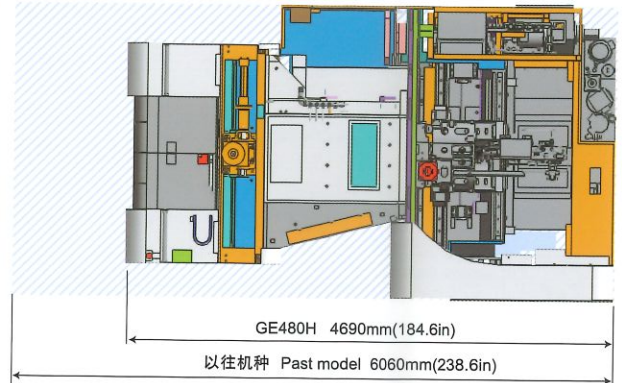
机型 Model	以往机型 Past model	GE460H, GE480H
最大主轴旋转速度 Max. spindle speed	13000min ⁻¹	15000min ⁻¹
主轴启动时间 (在12000min ⁻¹ 时比较) Spindle ramp-up to 12000min ⁻¹	1.61秒	1.2秒 到15000min ⁻¹ 为止的启动时间 Spindle ramp-up to 15000min ⁻¹ 1.2sec



主轴杆 Spindle shank		旋转数 Spindle speed	轴承数 Number of bearing	轴承内径 Inner dia. of bearing		润滑方式 Lubrication
Standard	BT40	15,000min ⁻¹	4列(4rows)	Φ70mm	2.75in	油压(Oil air)
Option	HSK-A63	15,000min ⁻¹	4列(4rows)	Φ70mm	2.75in	油压(Oil air)
Option	BT40	12,000min ⁻¹	4列(4rows)	Φ85mm	3.3in	油压(Oil air)
Option	BT40	7,000min ⁻¹	4列(4rows)	Φ85mm	3.3in	润滑油(grease)

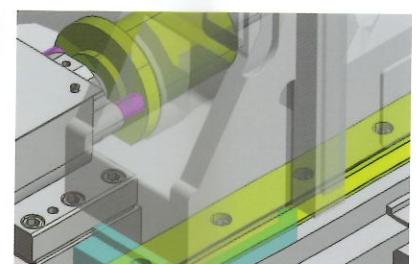
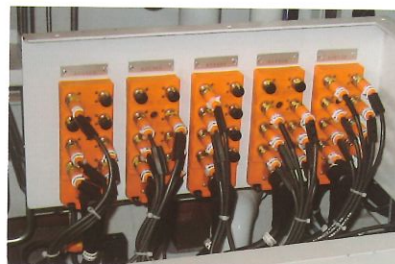
节约占地面积 | Floor space -saving

GE480H			
全长6060mm	→	4690mm	缩短23%
Depth of machine 238.6inch	→	184.6inch	23% Less
GE460H			
全长5600mm	→	4475mm	缩短20%
Depth of machine 220.5inch	→	176.2inch	20% Less



实现平均恢复原状时间1小时 | Achieving MTTR 1H

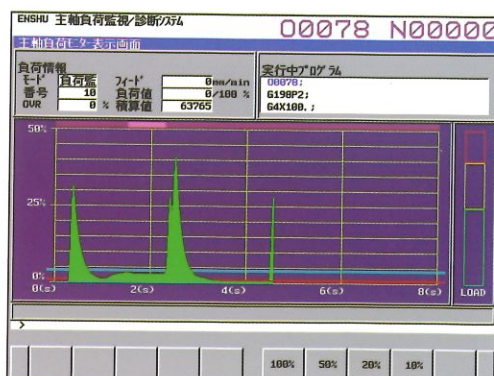
使用M12插座	→	不需驱动器
马尔蒂端口系统取代中转盒	→	用中转盒全部维修作业的安全、效率化
对接式参考点的设置	→	回复原点时间缩短
M12 connectors are used.	→	Easy maintenance, such as enable wiring without tools and improved wiring quality.
Multi-port system, this means no use of terminal box.	→	Efficiency of maintenance.
Butt-type reference position setting	→	Reduces replacement time of feed-motor, and easy maintenance.



※MTTR 1H, 是英文Mean Time to Repair 1 Hour的缩写, 意为“平均恢复原状时间”。远州的设计理念就是发现系统故障到使其恢复原状时间在1小时以内。此设计并非对所有恢复原状时间都绝对保证。

※MTTR 1H" is an abbreviation for "Mean Time for Repair 1 Hour". This is ENSHU's engineering concept of aiming for recovery within one hour of system failure. This does not guarantee recovery for whole type of failers.

切削监控功能选项 | Cutting monitoring function (Option)



○这是一套监控切削负荷、管理刀具寿命的软件。

・ This is the management software for TOOL-Life by monitoring spindle motor load.

※请参考第8页。※Please see page 8.

主轴 Spindle

最高转速15000min⁻¹, BT40(主轴轴承内径 φ70mm)
18.5kW(连续) / 26kW(30分) / 30kW(10分25%) / 37kW
(10分15%) 拉钉 MAS P40T-II
Max. speed15000min⁻¹, BT40(Spindle Inner bearing φ70mm)
18.5kW(cont.) / 26kW(30min.) / 30kW(10min 25%) /
37kW(10min 15%) Pull stud MAS P40T-II

刀具自动交换 ATC

刀库 Tool magazine

ATC刀库存储能力 40把
ATC magazine 40 tools

转台 Index table

B轴 转台 (1° 分度工作台)
转台 □500mm (螺纹孔: mm)
B-axis Index table (1° curvic)
Pallet □500mm (Tapped mm hole)

进给轴电机 Axis motor

进给轴电机 5.5 kW
Axis motor 5.5kW

托盘交换装置 Pallet changer

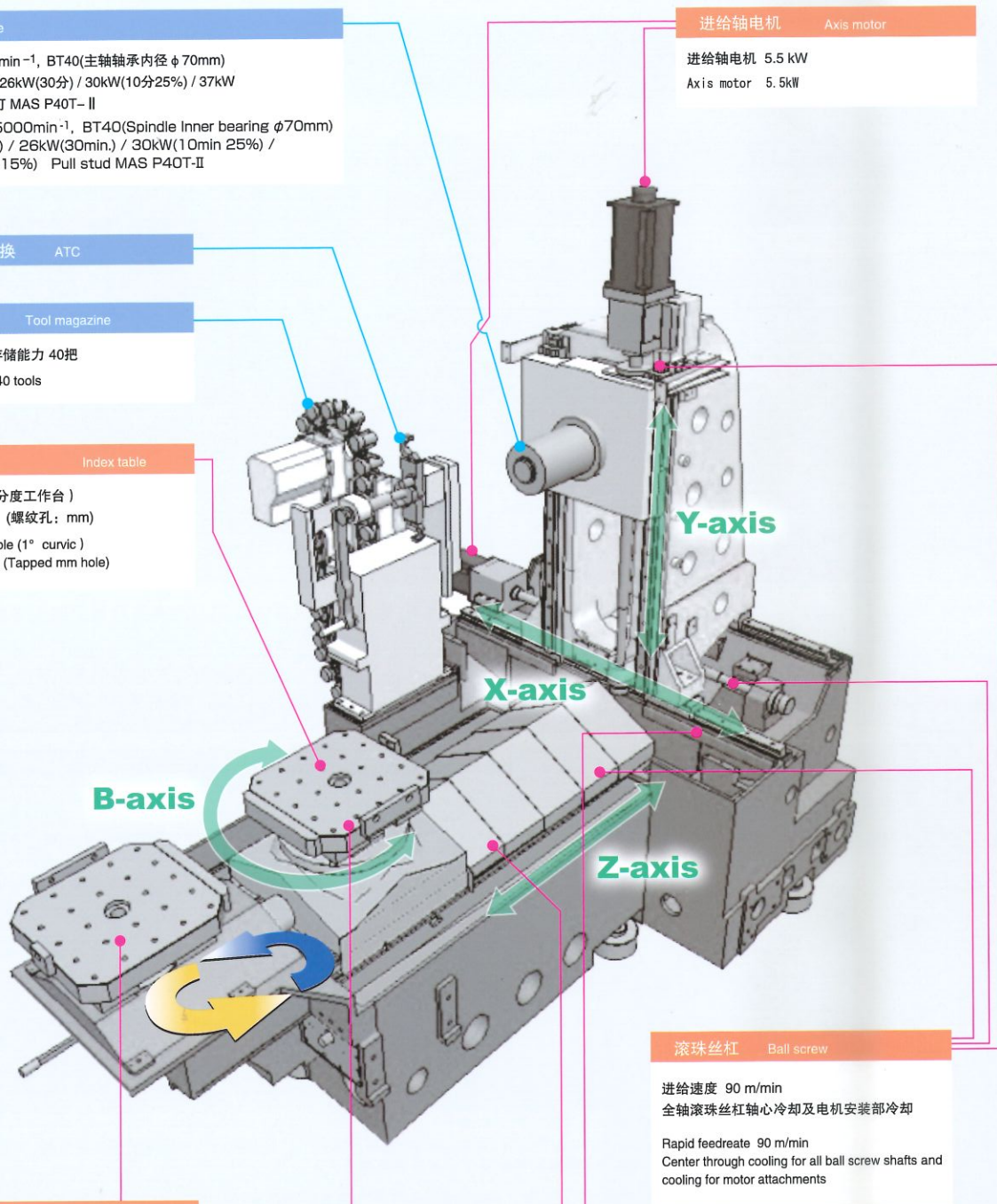
托盘交换时间 7秒
重量 500kg
Pallet change time 7sec
Weight 500kg

滚珠丝杠 Ball screw

进给速度 90 m/min
全轴滚珠丝杠轴心冷却及电机安装部冷却
Rapid feedrate 90 m/min
Center through cooling for all ball screw shafts and
cooling for motor attachments

直线导轨 Linear Guide

X、Y轴滑动单元采用最新型的滚轮导轨。
X, Y axis are Roller-type linear guide.



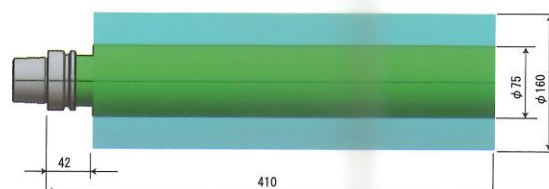
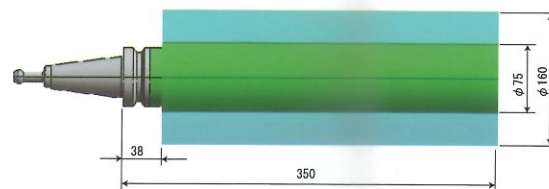
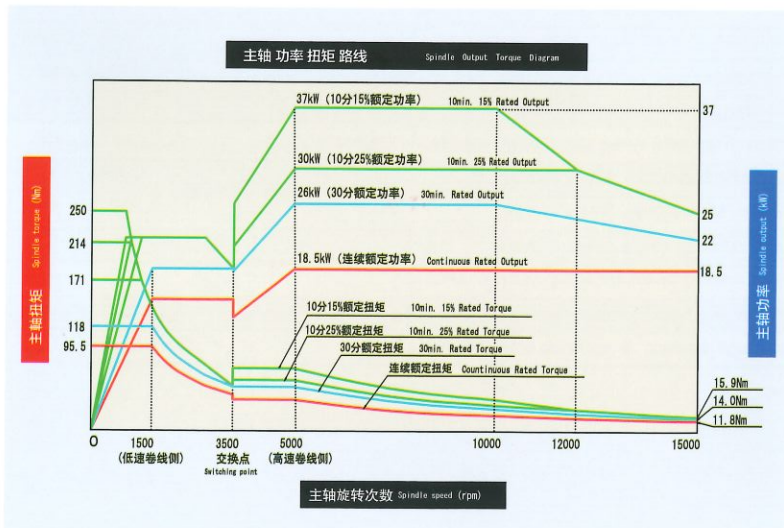
标准附件	Standard accessories	GE460H	GE480H
调整螺栓及垫板 (FL 50mm)	Leveling bolts and block (FL 50mm)	○	○
主轴冷却装置	Spindle oil chiller	○	○
滚珠丝杠轴心冷却装置	Ball screw center through cooling device	○	○
全封闭挡板(手动门)	Total enclosed splash guard (Manual door)	○	○
旋转型APC	Rotary type 2-APC	○	○
床身冲洗冷却液配管	Spindle nozzle & bed wash, coolant piping	○	○
警报指示灯/作业结束指示灯	Alarm lamp / Work-off lamp (Yellow, White)	○	○
门联锁	Door interlock	○	○
手动脉冲发生器	Manual pulse generator	○	○

●GE460H 规格书 GE460H specification

*有可能因追加特殊规格零件而使标准功能受制约。

项目 Item	项目	Item	规格 GE460H	规格 GE480H	specification GE460H	specification GE480H
行程 Travel	X轴行程(立柱左右移动)	X axis travel (longitudinal stroke, Column)	600mm	800mm	23.6 in	31.5 in
	Y轴行程(主轴头上下移动)	Y axis travel (vertical stroke, head)	600mm	800mm	23.6 in	31.5 in
	Z轴行程(工作台前后移动)	Z axis travel (traverse stroke, table)	600mm (+APC行程10mm)	800mm (+APC行程10mm)	23.6 in (+APCstroke 0.79 in)	31.5 in (+APCstroke 0.39 in)
	工作台上表面至主轴中心的距离	Distance from table surface to spindle center	70~670mm	70~870mm	2.75~26.28 in	2.75~34.25 in
工作台 Table	工作台中心线至主轴端面距离	Distance from table center to spindle nose	150~750mm	150~950mm	5.9~29.52 in	5.9~37.4 in
	工作台面大小	Table work area size	□500mm		□19.68in	
	工作台可承载最大重量	Maximum allowance work weight	500kg		1103.7lbs	
	工作台上面的形状	Shape of table top surface	24-M16螺丝		24-5/8-11UNF	
主轴 Spindle	工作台最小分度	Minimum index angle of table	1° (分度工作台)		1deg.(curvic)	
	工作台分度时间	Table index time	1.2sec (90°)		1.2sec(90deg.indexing)	
	地面到工作台上面的高度	Height from floor to table top	1160mm		45.6in	
	主轴转速	Spindle speed	40~15000min-1		40~15000min-1	
进给速度 Feed rate	主轴转速级数	Number of spindle speed ranges	无极		Non step	
	主轴孔	Spindle hole	7/24锥度No.40		7/24taper No.40	
	主轴轴承内径	Inner diameter of spindle bearing	φ70mm (4列)		φ2.8in(4rows)	
	快速进给速度	Rapid feed rate	9000mm/min(X,Y,Z)		3543.3in/min(X,Y,Z)	
刀具自动 交换装置 Automatic tool change	切削进给速度	Cutting feed rate	1~4000mm/min (AI轮廓控制有效时)		0.04~1574.8in/min	
	点动进给速度	Jog feed rate	1~4000mm/min		0.04~157.48in/min	
	刀柄型号	Tool shank type	MAS BT40		MAS BT40	
	拉钉型号	Pull stud type	MAS P40T-II		MAS P40T- II	
托盘自动交换 Automatic pallet change	刀库容量	Maximum tool capacity	40把		40 tools	
	刀具最大直径	Maximum tool diameter	φ75mm(无相邻刀具时: 160mm)		φ2.9in(No adjacent 2-tools: φ6.3 in)	
	刀具最大长度	Maximum tool length	350mm		13.78 in	
	刀具最大重量	Maximum tool weight	8kg(低速ATC时12kg)		17.6 lbs(in case of slow speed 26.4 lbs)	
电机 Motors	刀具选择方式	Tool selection method	最短绝对距离		Absolute address	
	刀具换刀时间(T to T)	Tool change time (T to T)	1.2sec		1.2sec	
	刀具换刀时间(C to C)	Tool change time (C to C)	2.4sec	2.7sec	2.4sec	2.7sec
	托盘数量	No. of pallet	2		2	
动力源 Power source	托盘更换方式	Pallet exchange method	旋回式		Plotary type	
	托盘更换时间	Pallet change time	7sec		7.0sec	
	主轴电机	Spindle motor	37KW(10分15%) /30KW(10分25%) /26KW(30分) /18.5KW(连续)		37KW(10min 15%) /30KW(10min 25%) /26KW(30min) /18.5KW(Cont)	
	轴进给电机(X)	Axis motor X axis	5.5KW		7.4 HP	
油箱容量 Tank capacity	轴进给电机(Y)	Axis motor Y axis	5.5KW		7.4 HP	
	轴进给电机(Z)	Axis motor Z axis	5.5KW		7.4 HP	
	轴进给电机(B)	Axis motor B axis	1.8KW		2.4 HP	
	液压泵电机	Hydraulic pump motor	2.2KW		2.95 HP	
机械的大小 Machine dimensions	润滑泵电机	Lubrication pump motor	90W		0.04 HP	
	切削液泵电机(主轴喷嘴用)	Cutting fluid pump motor (spindle nozzle & bed flush)	1.5/2.2KW		2.0/2.95 HP	
	刀库驱动电机	Tool magazine motor	1.2KW		1.6 HP	
	ATC臂驱动电机	ATC arm drive motor	1.2KW		1.6 HP	
主轴冷却及滚珠丝杠中心冷却泵电机	Spindle chiller & ball screw cooler pump motor		0.75KW		1.0 HP	
	电源	Power supply	AC200±10% 50/60Hz±1Hz AC220±10% 60Hz±1Hz 60KVA		AC200V±10% 50/60Hz±1Hz AC220V±10% 60Hz±1Hz 60KVA	
	压缩空气	Compressed air	0.5~0.8MPa 600L/min(大气压)		72.5~116psi(supply pressure) 158.5 gal/min(Atmospheric)	
	液压单元	Hydraulic unit	20L		5.2gal	
自动润滑装置容量(滚珠丝杠、LM牵引和主轴油气装置)	Automatic lubrication tank (ball screw, guide and spindle oil air device)		4L		1.0gal	
	切削液箱容量(选配)	Cutting fluid tank (option)	540L		161.8gal	
	主轴冷却及滚珠丝杠中心冷却油箱容量	Automatic spindle chiller unit & ball screw cooling tank	41L		10.8gal	
	机械的高度	Machine height	2767mm	2955mm	107.16 in	116.33 in
占地面积	Floor space		2500mmx4475mm	2800x4690mm	90.55 in x 180.1 in	110.23 in x 184.65 in
	机器重量(包含NC设备)	Machine weight (including NC device)	10000kg	11000kg	22045 lbs	24250 lbs

※如有变化, 恕不另行通知。 Note:The contents of this are subject to change without prior notice.



基本构成 Basic Configuration	主机规格 Machine Specification	机器选项 Mechanical Option	数控选项 Numerical Control Option	主机尺寸 Machine Dimensions
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●主轴相关附件 Spindle related Option

项 目	Item	GE460H	GE480H
主轴 7000min ⁻¹ BT40, CAT40 (轴承内径 φ 85)	Spindle 7000min ⁻¹ , BT40, CAT40 (ID φ 85)	OP	OP
主轴 7000min ⁻¹ HSK-A63 (轴承内径 φ 85)	Spindle 7000min ⁻¹ , HSK-A63 (ID φ 85)	OP	OP
主轴 12000min ⁻¹ BT40, CAT40 (轴承内径 φ 85)	Spindle 12000min ⁻¹ , BT40, CAT40 (ID φ 85)	OP	OP
主轴 12000min ⁻¹ HSK-A63 (轴承内径 φ 85)	Spindle 12000min ⁻¹ , HSK-A63 (ID φ 85)	OP	OP
主轴 15000min ⁻¹ HSK-A63 (轴承内径 φ 70)	Spindle 15000min ⁻¹ , HSK-A63 (ID φ 70)	OP	OP
刀库 40把 HSK-A63	Tool magazine, 40 tools HSK-A63	OP	OP
刀库 40把 HSK-A63 对应长刀具	Tool magazine, 40 tools HSK-A63 for Long Tool	—	OP
刀库 60本 BT40, CAT40	Tool magazine, 60 tools BT40, CAT40	OP	OP
刀库 60本 HSK-A63	Tool magazine, 60 tools HSK-A63	OP	OP
刀库 118本 BT40, CAT40	Tool magazine, 118 tools BT40, CAT40	OP	OP
刀库 118本 HSK-A63	Tool magazine, 118 tools HSK-A63	OP	OP
中心出水冷却 2MPa/5Mpa BT40, CAT40, HSK-A63	Center through coolant, 2Mpa/5Mpa BT40, CAT40, HSK-A63	OP	OP
中心出水冷却 7MPa HSK-A63 (对应HSK-A63)	Center through coolant, 7Mpa HSK-A63 (Only HSK-A63)	OP	OP
拉钉 MAS P40T- I 式样	Pull stud, MAS P40T- I Specification	OP	OP
主轴外部切屑气吹	Air blow of outer spindle	OP	OP
刀库内刀具折损检测装置	Automatic tool breakage detection in magazine	OP	OP
自动定心装置	Automatic centering	OP	OP
角度头用定位块	Attachment block for angle head holder	OP	OP

●机器主机相关选项 Machine Body related Option

项 目	Item	GE460H	GE480H
光栅尺 X轴 (海德汉制)	Scale feedback X-axis (HEIDENHAIN)	OP	OP
光栅尺 X轴 (Magnescale制)	Scale feedback X-axis (Magnescale)	OP	OP
光栅尺 Y轴 (海德汉制)	Scale feedback Y-axis (HEIDENHAIN)	OP	OP
光栅尺 Y轴 (Magnescale制)	Scale feedback Y-axis (Magnescale)	OP	OP
光栅尺 Z轴 (海德汉制)	Scale feedback Z-axis (HEIDENHAIN)	OP	OP
光栅尺 Z轴 (Magnescale制)	Scale feedback Z-axis (Magnescale)	OP	OP
B轴NC旋转台(NC 0.001° 分度)无光栅尺	B-axis NC rotary table (NC 0.001 deg.) without scale feedback	OP	OP
B轴NC旋转台光栅尺(海德汉制)	Scale feedback for B-axis rotary table (HEIDENHAIN)	OP	OP
B轴NC旋转台光栅尺(Magnescale制)	Scale feedback for B-axis rotary table (Magnescale)	OP	OP
对应夹具用气压液压供给 同步伸缩方式 4P × 2	Hydraulic & Pneumatic supply for fixture, Pantograph type 4P × 2	OP	OP
对应夹具用气压液压供给 同步伸缩方式 6P × 2	Hydraulic & Pneumatic supply for fixture, Pantograph type 6P × 2	OP	OP
对应夹具用气压液压供给 自动连接方式 (仅限机器侧) 6P	Hydraulic & Pneumatic supply for fixture, Auto coupler type (Machine side) 6P	OP	OP
对应夹具用气压液压供给 自动连接方式 (仅限机器侧) 8P	Hydraulic & Pneumatic supply for fixture, Auto coupler type (Machine side) 8P	OP	OP
对应夹具用气压液压供给 自动连接方式 (仅限机器侧) 10P	Hydraulic & Pneumatic supply for fixture, Auto coupler type (Machine side) 10P	—	OP
对应夹具用气压液压供给 开孔托盘方式 5P	Hydraulic & Pneumatic supply for fixture, Palette through type 5P	OP	OP
托盘 □400mm (螺纹孔:mm)	Pallet 400 × 400mm (15.7 × 15.7 in) (Tapped mm hole)	OP	—
托盘 □400mm (螺纹孔:inch)	Pallet 400 × 400mm (15.7 × 15.7 in) (Tapped inch hole)	OP	—
托盘 □500mm (螺纹孔:inch)	Pallet 500 × 500mm (19.6 × 19.6 in) (Tapped inch hole)	OP	OP
托盘 □630mm (螺纹孔:mm)	Pallet 630 × 630mm (24.8 × 24.8 in) (Tapped mm hole)	—	OP
托盘 □630mm (螺纹孔:inch)	Pallet 630 × 630mm (24.8 × 24.8 in) (Tapped inch hole)	—	OP
开孔托盘 □500mm (螺纹孔:mm)	Center through type pallet system 500 × 500mm (19.6 × 19.6 in) (Tapped mm hole)	OP	OP
开孔托盘 □500mm (螺纹孔:inch)	Center through type pallet system 500 × 500mm (19.6 × 19.6 in) (Tapped inch hole)	OP	OP
开孔托盘 □630mm (螺纹孔:mm)	Center through type pallet system 630 × 630mm (24.8 × 24.8 in) (Tapped mm hole)	—	OP
开孔托盘 □630mm (螺纹孔:inch)	Center through type pallet system 630 × 630mm (24.8 × 24.8 in) (Tapped inch hole)	—	OP
缘定位器 □400mm	Edge locator 400 × 400mm (15.7 × 15.7 in)	OP	—
缘定位器 □500mm	Edge locator 500 × 500mm (19.6 × 19.6 in)	OP	OP
缘定位器 □630mm	Edge locator 630 × 630mm (24.8 × 24.8 in)	—	OP
上料侧托盘分度装置	Automatic indexing device in loading station for APC.	OP	OP
机内刀具折损检测 (METROLL) & 自动刀具长测定	Tool breakage detection & Tool length measurement in machining area (METROLL)	OP	OP
机内刀具折损检测 (METROLL)	Tool breakage detection in machining area (METROLL)	OP	OP

※如有式样变化,恕不另行通知。Note: The contents of this area subject to change without prior notice.

● 冷却箱相关选项 Coolant related Option

项 目	Item	GE460H	GE480H
手动排屑器的切削液装置 (400L) 1个泵	Cutting fluid tank (400L) manual cutting-chip removal, 1 pump	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 后方, 2Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Backward, 2MPa)	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 后方, 5Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Backward, 5MPa)	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 后方, 7Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Backward, 7MPa)	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 侧方, 2Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Sideward, 2MPa)	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 侧方, 5Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Sideward, 5MPa)	OP	OP
提升式排屑器的切削液装置 (后置、切屑排出: 侧方, 7Mpa)	Cutting fluid tank with Lift-up chip conveyor (Rear, Chip disposal: Sideward, 7MPa)	OP	OP
※带撇油器的提升式排屑器的切削液装置	* Oil skimmer is included in Lift-up chip conveyor	OP	OP
喷枪 (从床身冲洗分支)	Coolant gun (Branching of Bed shower coolant)	OP	OP
顶棚喷淋冷却液装置	Ceiling shower coolant	OP	OP
机内螺旋履带排屑器	Screw type chip conveyor (inside machine)	OP	OP

● 护罩相关选项 Cover related Option

项 目	Item	GE460H	GE480H
刀库护罩 (长刀具对应上下门)	Magazine cover (up-and-down motion shutter for Long tool)	—	OP
2APC前面自动门	Automatic front-side door cover of 2APC	OP	OP
区域感应器	Area curtain sensor	OP	OP
液压单元专用护罩	Special cover for Hydraulic unit	OP	OP

● 电气系列选项 Electric equipment Option

项 目	Item	GE460H	GE480H
漏电保护器	Circuit breaker for electrical leakage	OP	OP
工件计数器 (显示屏画面显示)	Work-piece counter (Screen)	OP	OP
工件计数器 (硬件)	Work-piece counter (Hardware counter)	OP	OP
主轴运转时间计数器 (显示屏画面显示)	Spindle run hour meter (Screen)	OP	OP
主轴运转时间计数器 (硬件)	Spindle run hour meter (Hardware meter)	OP	OP
3色信号塔 (红色: 紧急停止、黄色: 加工结束、绿色: 运行中)	3colors signal tower (R: EM. stop, Y: Completed, G: Running)	OP	OP
作业结束蜂鸣器	Buzzer indicating task completion	OP	OP
自动电源关闭	Automatic power shut-off	OP	OP
机内照明灯 (LED)	Work light in machining area	OP	OP
100v插座	100V electrical outlet	OP	OP

● 其他选项 Other Option

项 目	Item	GE460H	GE480H
预备托盘 (□400mm)	Extra pallet 400 × 400mm (15.7 × 15.7 in)	OP	—
预备托盘 (□500mm)	Extra pallet 500 × 500mm (19.6 × 19.6 in)	OP	OP
预备托盘 (□630mm)	Extra pallet 630 × 630mm (24.8 × 24.8 in)	—	OP
带孔的地脚螺栓	Hole-in anchor	OP	OP
对应夹具的液压单元 (追加)	Hydraulic unit for fixture (Addition)	OP	OP
机器操作工具一套	Maintenance tool kit	OP	OP
油雾收集器	Mist collector	OP	OP
CE仕様	CE marking	OP	OP

※如有式样变化, 恕不另行通知。Note: The contents of this area subject to change without prior notice.

基本构成 Standard Configuration	主机规格 Main Unit Specification	机器选项 Machine Option	数控选项 System control option	主机尺寸 Machine dimensions
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*因追加特殊规格零件而有可能使标准功能受制约。

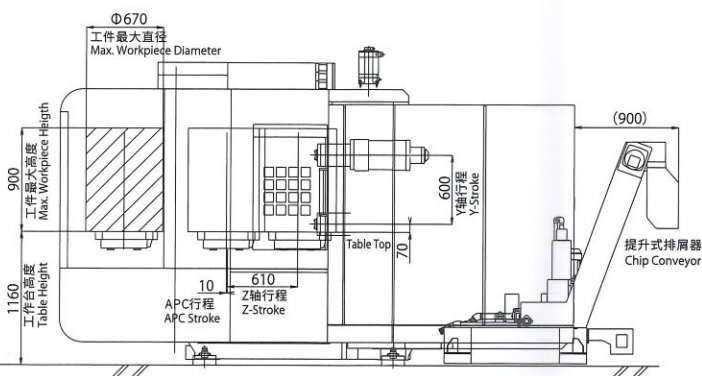
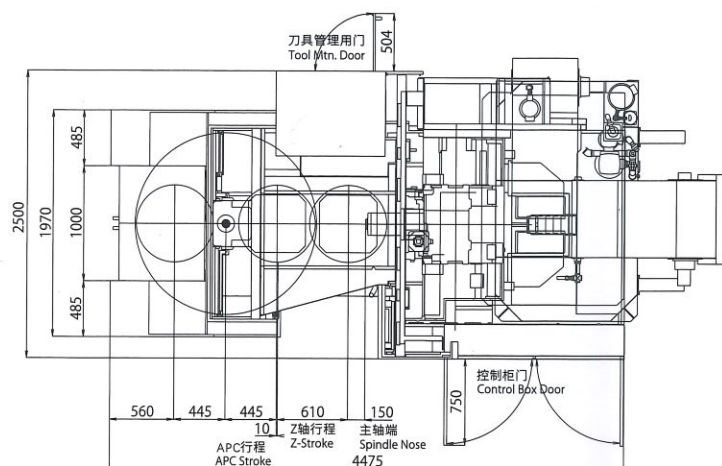
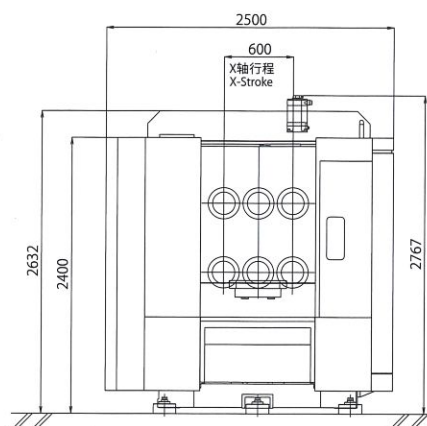
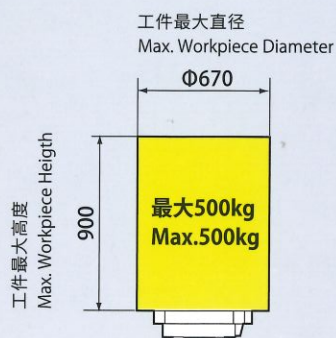
OP=OPTION ◎=SPECIAL OPTION

● 控制规格 Control specification

项目 Item	功能	Function	说明	Description	
计数器 Counter	刀具计数功能	Tool counter function (G302)	16/24/48/60件最多为6位数规格 (最多999999)	16/24/48/60 pcs Max. 6digits (max.999999)	OP
			减法计数器功能	Subtraction counter function	OP
			最多8位数规格 (最多99999999)(位数增加)	Max. 8 digits (max.99999999)	OP
			新品检查记录功能	Registration function for the first goods after tool-changing	OP
	生产计数功能	Production counter function (G303)	4/8/16/24/32件最多为6位数规格 (最多999999)	4/8/24/32 pcs max.6digits(max.999999)	OP
			日常计数器(4位·最多9999)	Daily counter (4digits·max.9999)	OP
			总数计数器(8位·最多99999999)	Total counter (8digits·max.99999999)	OP
			最多8位数规格(位数增加)	Max. 8digits(max.99999999)4/8 pcs	OP
	质量计数功能	Quality counter function (G304)	最多4位(最多9999)	Max. 4digits(max.9999)	OP
			减法计数器功能	Subtraction counter function	OP
数据 1F Data 1F	PMC读取控件	PMC reading control	4/8件刀具偏差记录器B规格	4/8 pcs, tool-off set is necessary memory B	OP
			刀具偏差记录器A	Tool offset memory A	OP
	P-CODE指令读写数据	P-CODE common value date read, write	刀具偏差记录器C	Tool offset memory C	OP
			PMC(D,R,C,K,E)二进制单位可读、 字节长度(1,2,4字节)可读。	PMC(D,R,C,K,E) possible to read in unit of "Bit"-length of byte(1,2,4byte)	OP
	写出记录卡功能(聚合模式) (G166)	Memory card export function (aggregate mode)	个数100~	100 sets ~	OP
			输入1次指令,可读年月日、时分秒、生产数、 工具计数(仅限现在的值,可指定范围)伺服电机温度、自定义最大变数(可指定范围 (2组))、范围MAX=10个、工具修正数等, 数据视机种不同而定。	Date, HMS, production numbers, tool counter, temperature servo motors, custom macro variables, record data for each model	OP
	写出记录卡功能(公值模式) (G166)	Memory card export function (traceability mode)	输入1次指令,可读年月日、时分秒、生产数、 工具计数(可指定范围)伺服电机温度、自定义最大变数(可指定范围(2组))、范围 MAX=10个、工具修正数等,数据视工作不同而定。	Date, HMS, production numbers, tool counter, temperature servo motors, custom macro variables, record data for each work	OP
					OP
	刀具功能 Tool function	主轴刀具交换功能(digit软件)	Tool-change function (in digit-sw)		OP
			使用数字软件访问功能,操作时可变幻刀 具功能。(操作刀具或换下一位置时不可 变换刀具)	Call function for tool by using digit-sw available to tool-change function in operating not available to tool-change for operating-tool or next-position.	◎
主第2功能 Spindle no.2 orientation	在刀库内安排替换刀具 (仅限刀套滑轨式样)(G200)	Array substitution of tool in magazine (only for Pot-slider type)			OP
					OP
	第2定位功能(M18)	No.2 orientation function (M18)	在参数设定范围内定位	Positioning in parameter-set position	OP
			任意定位功能(M919***)	Positioning in programming position	OP
	任意定位功能(M919***)	Arbitrary position orientation function (M919***)	在程序范围内定位	Positioning in programming position	OP
			必须考虑与客户协商	Must be considered with customers specification	◎
	刀具ID功能	Tool ID function	式样需与客户协商	Must be considered with customers specification	◎
			式样需与客户协商	Must be considered with customers specification	◎
	托架ID功能	Pallet ID function			OP
					OP
程序访问功能 Call program function	机件选择功能	Work selection function	从屏幕选择机型机番	Input data "work selection" on screen	OP
			紧急返回	Emergency return	OP
	按钮操作执行功能	Program execution function in push button	按钮操作执行程序功能(1、2、3、4、5组) (操作时不可用)	Program execution function in push button 1/2/3/4/5set(not available in operation)	◎
					◎
	自动定心	Automatic centering	圆孔的中心、圆柱的中心、各孔两面间的 中心(X、Y轴方向)角内侧、角外侧、 X、Y、Z轴端面圆槽中心、槽两面间中心 (X、Y轴方向)端面	Centering for hole, outside-diameter, 2-holes, corner, X, Y, Z-axis facerounded circle, 2-rounded circle (X, Y-axis)	OP
			(可定心形状)(系统高速定心) 圆孔中心、圆柱中心	Centering in (high speed centering) Centering for hole, outside-diameter	OP
	任意角度HSD定心功能 (系统高速定心测定)	Arbitrary angle HSD centering			OP
					OP
	坐标纠正功能(简单系统用于定心)	Coordinates correction function (simple system for centering)	X轴纠正	X-axis coordination	OP
			Y轴纠正	Y-axis coordination	OP
精度 Precision	坐标点测量功能	Coordinates point measuring function	Z轴纠正	Z-axis coordination	OP
			X轴端面	Centering for X-axis face	OP
	坐标点测量功能	Coordinates point measuring function	Y轴端面	Centering for Y-axis face	OP
			Z轴端面	Centering for Z-axis face	OP
	暖机程序功能(G121)	Warming up program functio	设置机械停机时间 *必须有暖机程序	Setting the time of warming-up *it is necessary "warming-up program"	◎
					◎
	自动刀具长度测量及刀具损坏监测功能	Automatic tool length management and tool breakage detection function	自动刀具长度测量、折损检测功能	Automatic tool length management and tool breakage detection function	OP
					OP
	测算周期时间	Cycle time measuring	系统中使用专用G代码测算周期时间	Special G code using	OP
					OP
切削监控 Cutting monitoring	防止2次加工简易版(G121)	Prevention of device parts by detecting twice cutting	您可以在可使用范围内进行咨询。	Please contact ENSHU the range that can be used.	◎
			您可以在可使用范围内进行咨询。	Please contact ENSHU the range that can be used.	◎
	切削监视及刀具管理功能	Cutting monitor and tool-life management function			◎
					◎
	夹具接口双出SOL4个+开关4个	Interface for 4pcs of SOL(double cut) + 4set of presser switch	仅用于软件	Only for soft-ware	◎
			仅用于软件。(根据机械规格不同有可能改变)	Only for soft-ware	◎
	夹具接口双出SOL8个+开关4个	Interface for 8pcs of SOL(double cut) + 4set of presser switch			◎
					◎
	机械手/龙门接口	Interface for robot /gantry loader	仅用于软件	Only for soft-ware	◎
					◎
刀具· 搬运 Jig interface function & Transfer interfacefunc tion	自定义PMC接口	Interface for custom PMC	治工具、机械手等的PMC的1/F	Interface for fixture, robot	◎
					◎
	多面托盘接口(财务管理系统总线)	Interface for multi-pallet system (Profi-bus)	与FASTEMS制多面托盘更换和连接	Connection to FASTEM pallet changer	◎
					◎
	多刀具刀库252把接口 (Profi-bus,硬接线)	Interface for multi-ATC(252tools) system (Profi-bus, Hard-wiring)	与Mori Machinery制多刀具刀库单元连接	Connection to various Multi ATC System For example, Mori Machinery, etc)	◎
					◎
	快速送料·旋转开关	Rapid feed over ride Rotary switch			OP
					OP
	操作 Operation				OP
					OP

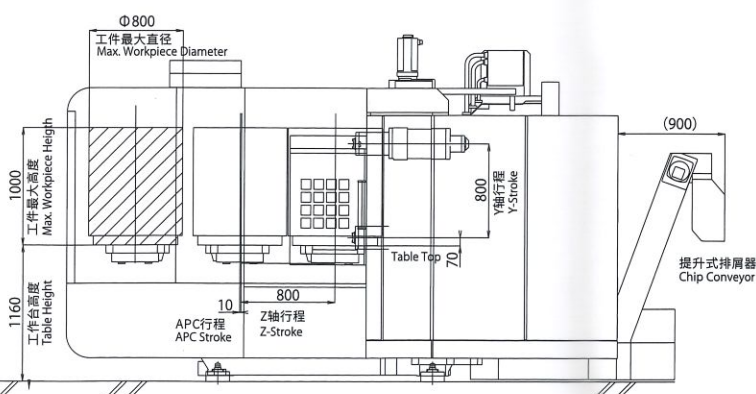
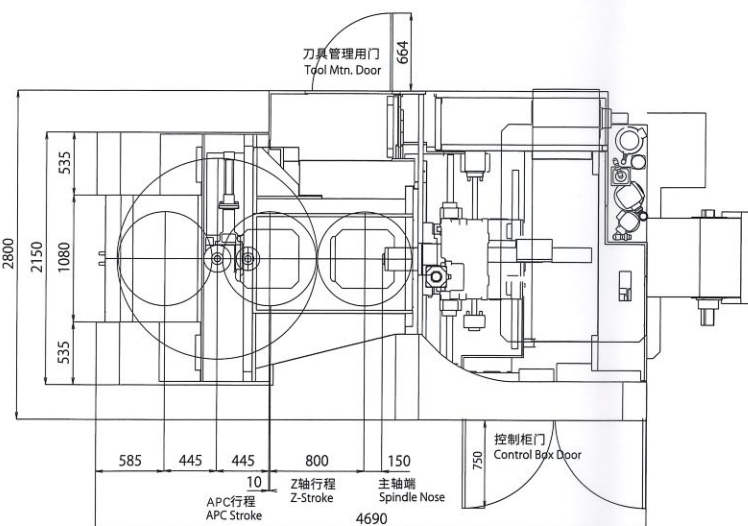
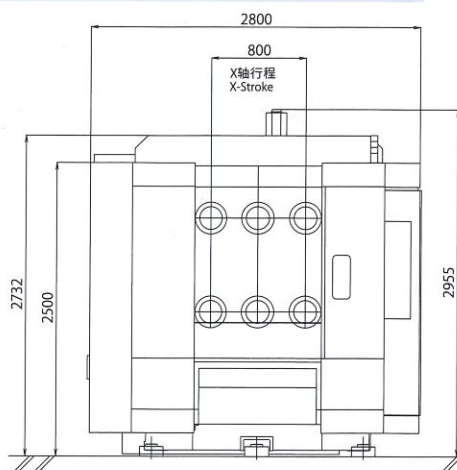
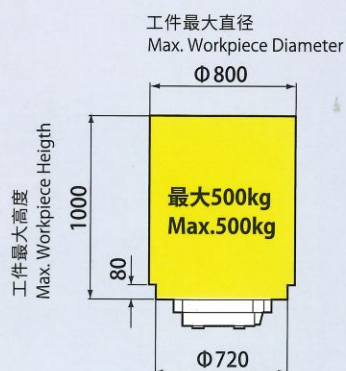
GE460H

加工范围 Working range



GE480H

加工范围 Working range





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