



GSM2015



GSM-3S



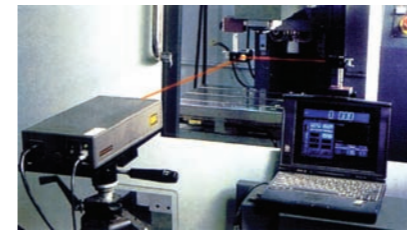
机械特性 Mechanical Features

- 机体采用计算机CAD/CAM优化设计，宽床身宽立柱结构，优质米汉纳树脂砂工艺精密铸造，多次人工时效稳定出力，吸震性强，整机刚性优良 三轴矩形导轨采用三角形支撑设计，超高频淬火处理，周边磨削工艺精磨。
- 大导程精密滚珠丝杠配以精密斜角滚珠轴承预紧安装，进给精准，负载力强。
- 与矩形导轨接触的磨擦副及镶条粘贴Turcite-B 耐磨片并精细研刮，耐磨性好。
- 宽床身，长鞍座设计，工作台全行程支撑，荷重力强。
- 三轴导轨采用全封闭式防设置，排屑防护性能良好。
- 气动拉刀装置，换刀方便快捷，确保生产的高效性。
- 自动润滑设计方案，确保所有导轨、丝杆、镶条等摩擦副能得到可靠的润滑
- 选用大功率伺服电机驱动进给，承载能力强。
- 全封闭电柜，辅以气流循环设计，防尘通风冷却效果良好。

- Machine body all uses computerized optimal structure design. It has the structure of wide body and column. It has characters of precise casting, good stability, strong absorption of shock and good rigid structure.
- 3-axis rectangle slide uses designs of triangle supporting, super HF quenching treating and ring dressing technique.
- Big guiding precise ball screw is equipped with precise angle ball bearing tighten installation, feeding accurately and strong loading.
- Turcite-B wearing bit and vice-friction, which touch with rectangle slide has good abrasability.
- It has designs of wide machine body, long bed, whole travelling supporting of worktable and strong loading.
- 3-axis slide uses airtight protection cover, which has character of good chip draining function.
- Equipped with pneumatic broaching tool equipment. It is convenient to be lubricated.
- Main motor with big power. It has characters of strong twisting force, high-speed and stability.
- Closed controller with the design of air current in circle, which has good results in dustproof.

先进的检测手段

Advanced inspection method

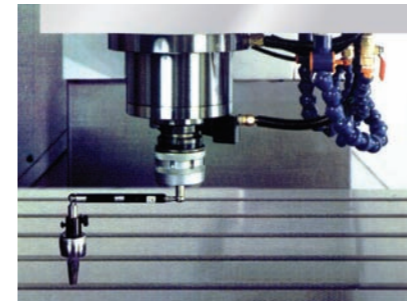


三轴雷射检验

每台机器均使用雷尼绍双频激光干涉仪校正，精确的对螺距误差、间隙、定位精度、重复定位精度等做出检验修正，以确保机器之动态、静态稳定性及加工精度。

Laser unit inspection of the three axis

Every machine is inspected by the Renishaw laser intervene instrument which can amend the screw-pitch error, reverse clearance, positioning accuracy and repeatability and machining accuracy of the machine.

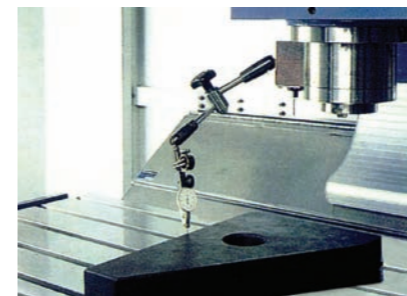


循圆切削检测

利用雷尼绍 (RENISHAW) 球杆仪，校正真圆精度及机器几何精度，并同时 进行循圆切削实验，以确保机台的3D加工精度及圆滑度

Roundness cutting inspection

Employ Renishaw roundness inspection instrument to inspect the real roundness and the geometry precision of the machine. At the same time, roundness cutting experiment is in process to make sure the 3D machining precision and roundness suit the requirement.



垂直度检测

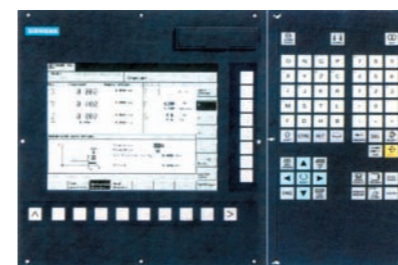
每一台机器皆经初组装三轴检测，与后组装三轴检测，确保每一台机器的三轴垂直度精确。

Uprightness inspection

There is uprightness inspection after the primary assembly and the final assembly of the three axis of every machine to ensure the uprightness between every two axis.

可选控制系统

Optional Control System



西门子系统 SIEMENS SYSTEM



发那科系统 FANUC SYSTEM



三菱系统 MITSUBISHI SYSTEM



MATEC数控系统



华中数控 HUAZHONG SYSTEM

主要技术参数

Technical Parameters

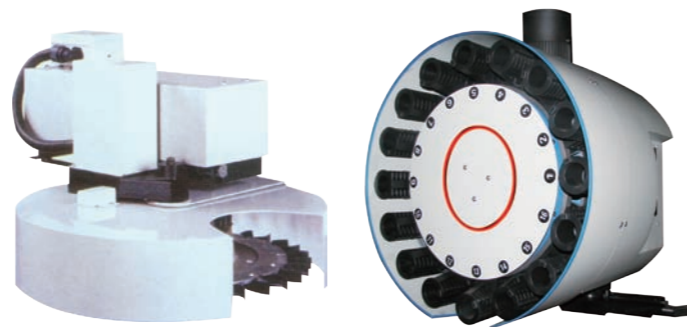
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型号Model	GSM2015	GSM-3S	GSVM5030 GSVM713	GSVM6540 GSVM714	GSVM9055	GSVM9560	GSVM1160	GSVM1360	GSVM1580	GSVM2080	GSVM6540A GSVM714A	GSVM6540C GSVM714C	GSVM8050	GSVM8550	GSVM1060 GSVM716	GSVM1160A	GSVM1165	GSVM1260	GSVM1370	GSVM1580A	GSVM1690	GSVM1890
工作台尺寸 Table dimensions(mm)	400×160	254×1270	700×300	1100×320	1370×405	1200×405	1200×405	1470×405	1700×800	2000×600	1200×405	800×400	1050×500	1000×500	1300×600	1200×580	1200×610	1400×600	1400×710	1700×800	1800×900	2000×900
左右行程(X) Travel of X-axis	200	865	500	650	900	950	1100	1300	1500	2000	650	650	800	850	1000	1100	1100	1200	1300	1500	1600	1800
前后行程(Y) Travel of Y-axis	150	406	300	370	500	600	600	600	800	800	400	400	500	510	600	600	650	600	700	800	900	900
上下行程(Z) Travel of Z-axis	150	406	400	400	550	450	450	450	700	700	450	500	550	510	600	600	610	600	650	700	680	680
主轴中心至立柱导轨距离 Column front to spindle center	174	165-620	380	430	515	580	580	613	800	820	430	450	550	550	655	610	700	655	785	800	950	950
主轴端面至工作台面距离 Distance from spindle nose to table	50-200	0-465	100-500	130-530	80-630	145-595	115-565	120-570	100-800	100-800	150-600	150-600	105-655	140-650	180-780	150-750	145-755	150-750	150-800	170-870	160-840	160-840
工作台最大承重 Max.weight of workpiece (kg)	30	300	150	200	400	400	400	400	700	800	400	400	600	600	800	800	800	800	1000	1500	1600	1600
工作台T型槽 T-slot dimension	3-10	3-16	3-18	3-16	5-16	4-16	4-16	4-16	5-22	5-22	4-16	3-18	3-18	5-18	5-18	5-18	5-18	5-18	5-18	5-22	5-22	5-22
主轴马达 Spindle motor (Kw)	1.5	3HP	3.7	4	5.5/7.5	5.5/7.5	5.5	5.5	7.5	7.5	5.5	7.5	7.5/11	7.5/11	11/15	11/15	15/18.5	15/18	15/18	15/18	15/18	15/18
主轴转速 Spindle speed (rpm)	6000-24000	80-2720	60-10000	6000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
主轴锥孔 Spindle taper size	ER16	R8/NST30	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT50	BT50	BT50	BT50	BT50	BT50
快速进给 Rapid feed rate (m/min)	3	12	10	10	12	12	12	12	12	12	12	12	18	18	18	18	18	18	18	18	18	18
切削进给 Cutting feed rate (m/min)	1	5	5	5	6	6	6	6	6	6	7	7	8	8	8	8	8	8	8	8	8	8
刀具数量 Tool number	\	\	\	10	16-20	16-20	16-20	16-20	16-24	16-24	16-20	16-20	16-40	16-40	20-40	20-40	20-40	20-40	20-40	20-40	20-40	20-40
定位精度 Positioning accuracy(mm)	0.04	0.03	0.02	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
重复定位精度 Repeatability accuracy(mm)	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
机器重量 Machine weight(Kg)	800	1500	2500	2800	4500	4500	4800	5000	6000	6500	4000	4000	5000	6000	8500	9000	9000	11000	11000	13000	14000	15000
机床尺寸 Overall dimensions (L×W×H)mm	1100×1000 ×1350	1890×2270 ×2110	2000×1400 ×2200	2320×1880 ×2250	2800×1600 ×1820	2800×1600 ×1810	3000×1600 ×1810	3300×2300 ×2300	3800×2000 ×2200	4800×2000 ×2200	2500×2050 ×2300	2200×1800 ×2250	2500×2300 ×2700	2700×2300 ×1900	3200×1800 ×1900	3300×2200 ×2700	3100×2500 ×1900	3800×1800 ×2000	4000×2000 ×2100	4000×2200 ×2200	4200×2300 ×2400	4600×2300 ×2400

滑柱式刀库

Slide type tool magazine

- 内藏式双向缓冲专利设计
- 邻刀快速稳定（4秒）。往复行程（单程6秒）
- 换刀时间4秒（刀对刀）。
- Interior double buffer design
- Taking tool(4 second)is quick and stable. returning travel(single travel 6 second).
- Changing tools time is 4 seconds(tool to tool).



标准配件

Standard Accessories

- 气动拉刀装置 Air power drawbar
- 全封闭防护罩 Fully enclosed-safety work space
- 自动润滑系统 Automatic lubrication system
- 冷却系统 Coolant equipment
- 照明系统 Work lamp
- 工具及工具箱 Tool&tools box
- 调整垫铁 Leveling bolts
- 技术手册 Technical manual
- 热交换器 Unfired pressure vessel

可选配件

Opional Accessories

- 卸刀座 Tool-drop seat
- BT40刀柄 BT40 tool shank
- 平口钳 Grad tongs
- 压板 Compressor sheet
- 高速雕刻主轴 High-speed graving spindle
- 第4轴NC回转工作台 4th axis NC rotary table
- 第5轴NC回转工作台 5th axis NC rotary table
- 排屑器 Chip enclosure
- 油冷机 Fuel-cooled oil cooler

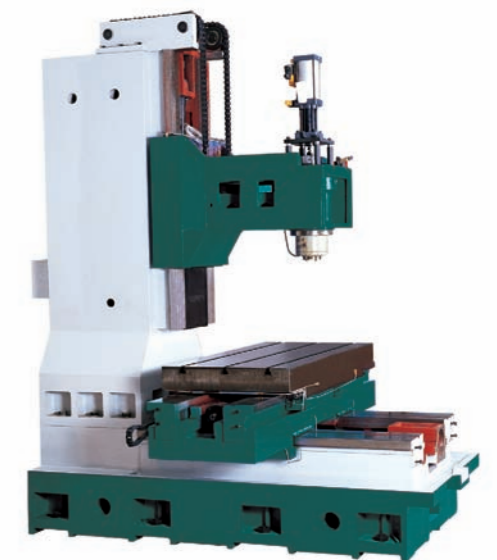
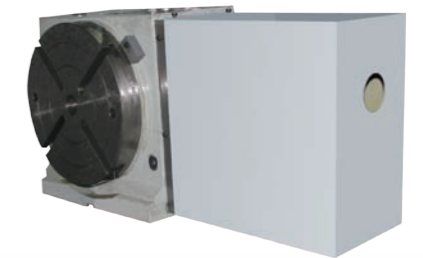
第四轴分度盘参数

4th axis NC rotary table

搭配第四轴回转工作台，可以同时多面加工、减少工件装夹的非加工时间。

It is able to process multi-surface at a time by choosing the 4th NC rotary working table, which will save the time of load and unload the work piece.

型号Model	CNC-160	CNC-210	CNC-240	CNC-120
工作台直径(mm)Turntable diameter	φ160	φ210	φ	φ120
垂直中心高(mm) Center height	121	160	245.5	130
垂直全高(mm) Leveling height	190	280	344	170
平置全高(mm) Leveling height	\	200	\	\
中心定位孔直径 Center bore diameter	φ22	φ22	φ40	φ20
T型槽宽 T-slot size	10	12	16	16
定位键宽度 Locating key size	\	6	\	\
伺服马达型式 Servo motor	发那克FANUC	0.5Kw/2Nm/4000rpm		
	西门子SIEMENS	0.6Kw/2Nm/3000rpm		
	安川YASKAWA	0.75Kw/2.4Nm/3000rpm		
蜗轮副传动比 Worm gear ratio	1:36	1:50	1:50	1:50
最小分割单位 Min segmented unit (°)	0.001	0.001	0.001	0.001
每分钟最大转速 Max swing speed (rpm)	80	60	60	60
分割精度(sec)Position segmented accuracy	25"	25"	25"	25"
重复精度(sec) Repeatability accuracy	4"	4"	4"	4"
旋转加工最大切削力(kg-m) Max cutting force of swing machining	40	50	55	23
净重(kg) Net weight	35	64	115	100
最大工件负载(kg) Max work piece loading	50	60	60	50



机床床身