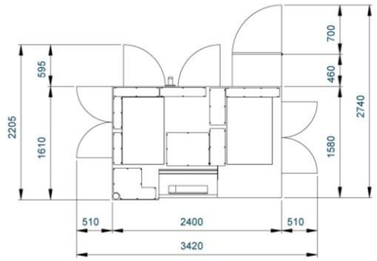
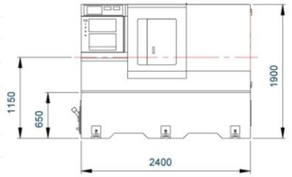
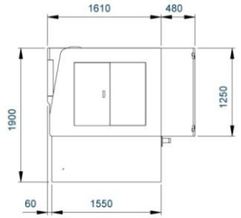
CNC 3-AXIS CONTROL

Dimensions and Floor Occupation



MODEL	OIG-200D
Grinding capacity	φ6 ~ 200 mm
Max. workpiece length	200mm
Swivel over table dia.	φ400mm
Inside chuck guard swivel	φ280mm
Max. table traverse	400mm
Max. table feed speed Z-axis	5m/min
Spindle speed	0~550R.P.M.
X-axis feed speed	5m/min
X-axis minimum travel unit	0.001mm
Y-axis minimum travel unit	0.001mm
Z-axis minimum travel unit	0.001mm
Workhead swivel	Forward 8°~Backward 7°
Hydraulic oil tank capacity	60L
Workhead motor	1HP,4P（Inverter）
Hydraulic pump motor	1HP,4P
Grinding wheel motor	2HP,2P（Inverter）
Coolant pump motor	1/8HP,4P
X-axis servo motor	1.8kw
Y-axis servo motor	1.8kw
Z-axis servo motor	1.8kw
Machine weight	5750kgs





STANDARD ACCESSORIES

- Hydraulic system
- Coolant system
- Diamond dresser
- Fully enclosed splash guard
- Belt tension auto. adjustment
- Leveling pad
- Tools & Tool box
- Grinding wheel spindle (alternative of 10,000~30,000 r.p.m.)
- Linear scale (X-axis)

OPTIONAL ACCESSORIES

- Hydraulic 3-jaw chuck
- 3-jaw scroll chuck
- Magnetic coolant separator
- Paper filter
- Quick fixtures for gears
- Wheelhead oil lubricator
- Spare G.W. spindle
- Coolant cooler
- Rotary dresser
- Soft jaw machining device
- Grinding wheel spindle inverter (variable)
- Gap control

ONiS SERIES

CNC INTERNAL GRINDER

PALMARY®

PALMARY MACHINERY CO., LTD. (TAIWAN)
No.77, Gongye Rd., Dali City, Taichung County 412, Taiwan.
T. +886-4-2492-9799 F. +886-4-2492-9499
palmary@grinding.com.tw

PALMARY MACHINERY CO., LTD. (THAILAND)
200 Moo 1 Khaerai, Kratumban, Samutsakorn Thailand, 74110.
T. +66-34-476225~6 F. +66-34-849516
E-mail. thailand@grinding.com.tw

Shangyu Daikinko Seiki Co., Ltd. (CHINA)
No.288,Yongxiang Road,Caoe Street,Economic Development Zone,Shangyu City,Zhejiang province,China
T. +86-575-82186081~3 F. +86-575-82186085
daikingseiki@yahoo.com.cn

www.grinding.com.tw

JANUARY 2009 - First Edition

PALMARY®

PALMARY®

Extraordinary Design! User-friendly Operation!

Pursuance of PERFECTION

The new ONiS CNC Internal Grinding Machine from PALMARY features optomal structural design, and an elegant appearance combined with advanced CNC control. The all new ONiS series will bring internal grinding technology into a new era. The structural parts of the machine are manufactured from high quality cast iron for defoemation-free performance year after year. The entire machine is precision built throughout to guarantee the best possible grinding accuracy you can find anywhere.

CNC 2-AXIS CONTROL

CNC 3-AXIS CONTROL

PALMARY®

CNC Internal Grinding Machine ONiS SERIES

CNC Control

- Latest digital.
- Easy to operate.
- Excellent for grinding applications
- Convenient editing.
- Complete software package

1

Gear Fixture (Optional)

1.A fixture specially designed for fast and convenient gear loading and unloading.

2.Three-point clamping design.

2

Wheel Head Slide

1.Providing a selection of automatic or manual feed modes.

2.Dressing amount is set through the conversational human machine interfacing controller. Minimum setting unit is 0.001 mm.

3.Wheel dressing amount is set as desired.

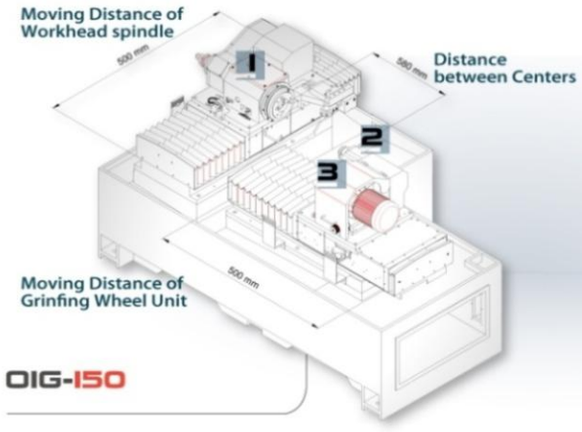
4.Dressing position can be memorized.

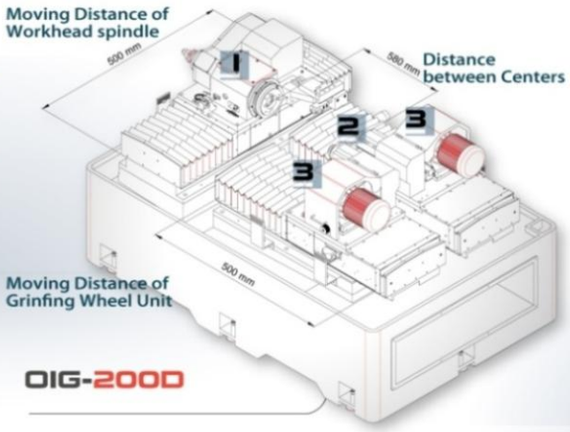
3

Automatic Belt Tension Adjustment

Automatic belt tensioning is made by means motor self-weight and eccentric shaft, assuring full power transmission. This also avoids affection on grinding quality due to belt loosening. Frequency inverted motor permits variable speed changes to suit various workpiece materials.

RANGES OF THE MOVING PARTS:





OUTSTANDING FEATURES:

1. The entire machine is ergonomically designed for user-friendly operation. The machine bed is manufactured from high quality cast iron, specially heat treated and precision machined to ensure deformation-free perfromance, year after year.
2. All slideways are lubricated by the static pressure automatic lubrication system, thereby providing extremely smooth movement and maximum wear resistance.
3. All the grinding motions - from rough grinding, dressing, finish grinding to spark out - are fully automatically operated. This provides high accuracy, conveninet operation and greatly upgrades productivity. Also, it is excellent for mass production as well as samll quantity, flexible workpiece grinding.
4. The workhead spindle runs on a high precision roller bearing featuring high accuracy, high rigidity and silent running. The workhead can be swiveled at 8° forward and 7° backward, allowing for grinding tapered workpieces.
5. Precision ball screws combined with servomotor drive provide variable feed speed changes.
6. The servomotor features compact construction, superior torque output, fast speed response, high accuracy and stability.
7. Suitable for grinding internal straight hole, end face, internal end face, internal end face, internal slot, internal chamfering angle, interanl circular angle, internal taper and internal taper and internal step, etc.
8. To meet mass production requirements, automatic loading and unloading equipment is availiable to provide a fully automatic operation.

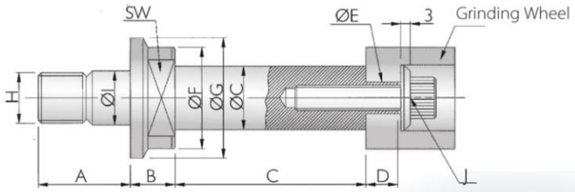
Control Circuit Meets European Standards

- The control circuit consists of high quality electronic components, featuring dependable control performance and long service life.
- The electric cabinet is equipped with a heat exchanger, providing a constant temperature for the control circuit and maximum stability of control performance.
- The electrical cabinet is dust-proof.

CNC Control System

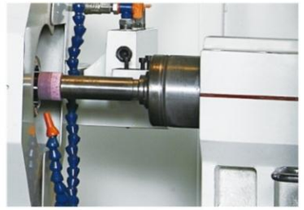
- Program Storage 160M
- Registered Program
- Program Number Search
- program Protection
- Background Editing
- Bilingal Display:English/Chinese
- Display of Spindle Speed, T Code, Workpiece Quantity and Processing Time on Screen
- Actual Speed Display
- External Key Input
- External Message
- I/O Device Control
- MDI Operation
- Reset
- Dry Run
- Single Block
- Program Protection
- Emergency Stop
- Status Display
- Incremental Pulse Coder Interface
- Automatic Coordinates Setting
- Workpiece Coordinates Setting
- Z-axis Simultaneous Controlability
- Least Input Increment - 0.001mm.
- Least Command Increment - 0.001mm.
- Rapid Traverse Override - 0, 25, 50, 100
- Automatic Acceleration / Deceleration
- Linear Acceleration / Deceleration After Cutting
- Feedrate Override 0 to 150%
- Positioning
- Linear Interpolation
- Circular Interpolation
- Reference Position Return
- Rererence Position Return Check
- Program Combine
- Special G Code Input
- Programming Input of Offset Data
- Custom Macro B
- Inch/Metric Conversion
- Tool Nose Radius Compensation
- Canned Cycles for Grinding
- X-axis Diameter / Radius Command
- Counter Input of Offset Value
- Radius Designation on Arc
- External Data Input/Output
- Manual Handle Feed - I unit
- Manual Handle Feed Rate Adjustable
- Dwell (per sec)
- High-speed Skip Function
- External Deceleration
- Position Signal Output
- Battery Alarm Output
- Backlash Compentsation
- Stored Pitch Error Compensation
- Clock Function
- EIA/ISO Automatic Recognition
- Multi-setp Skip
- Miscellaneous Function
- 9"CRT/MDI High-resolution Monochrome Screen
- Program Erase Function
- Program Copy Function
- Self-diagnosis Function
- 32 Pairs Tool Offset Memory
- Dressing Compensation
- Tool Geometry/Wear Offset
- Simple Tool Life Management
- Custom Macro

INTERNAL GRINDING SPINDLES



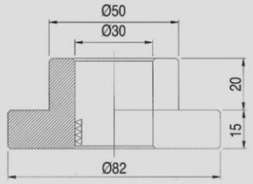
Grinding range	Grease type	A	B	C	D	E	F	G	H	I	J	SW	Oil mist type	Grinding range
ø65~ø150	8,000rpm	42	16	ø40 x 100 ø40 x 85 ø40 x 55	12	ø12	ø50	ø58	M26 x 2P	ø28	M8 x 1.25P	41		
ø35~ø70	15,000rpm	29	14	ø30 x 90 ø25 x 70 ø20 x 50	10	ø10	ø32	ø38	M16 x 1.5P	ø17	M8 x 1.25P	24		
ø24~ø40	20,000rpm	28	11	ø24 x 80 ø20 x 60 ø16 x 40	8	ø8	ø26	ø32	M14 x 1.5P	ø15	M6 x 1.0P	19	30,000rpm	ø15~ø25
ø15~ø25	30,000rpm	21	9	ø16 x 40 ø13 x 30 ø10 x 25	6	ø6	ø21	ø26	M10 x 1.5P	ø10.5	M4 x 0.7P	17	40,000rpm	ø12~ø16
		20	8	ø12 x 35 ø10 x 30 ø8 x 25	x	x	ø18	ø23	M8 x 1.25P	ø8.5	M4 x 0.7P	14	50,000rpm	ø9~ø13
		18	7	ø8 x 30 ø7 x 25 ø6 x 20	x	x	ø15	ø20	M7 x 1P	ø7.5	M4 x 0.7P	11	60,000rpm	ø6~ø10

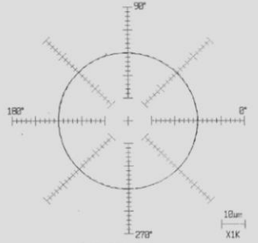
Internal Grinding Operation



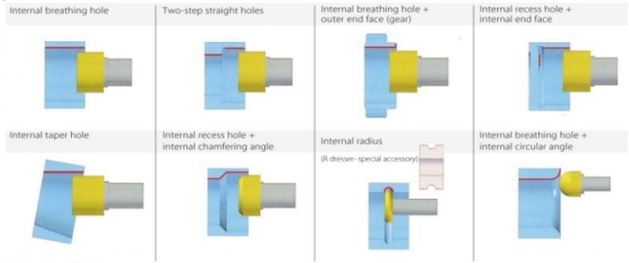
WORKING EXAMPLE

Model	BUSH
Material	SCM415(JIS)
Dimensions	Ø82x35xØ30mm
Stock remival	0.25mm/60sec.
Hardness HRC	HRC 55°±2°
Tolerance	5 μm
Spindle speed	20,000 r.p.m.
Roundness	2 μm
Cylindricity	3 μm





Grinding Example



Grinding Wheel Dressing Cycle

CNC 2-AXIS CONTROL

Dimensions and Floor Occupation

MODEL	OIG-150
Grinding capacity	φ6~150mm
Max. workpiece length	150mm
Swivel over table dia.	φ520mm
Inside chuck guard swivel	φ320mm
Max. table traverse	540mm
Max. table feed speed Z-axis	5m/min
Spindle speed	0~550R.P.M.
X-axis feed speed	5m/min
X-axis minimum travel unit	0.001mm
Z-axis minimum travel unit	0.001mm
Workhead swivel	Forward 8°~Backward 7°
Hydraulic oil tank capacity	60L
Workhead motor	1HP,4P（Inverter）
Hydraulic pump motor	1HP,4P
Grinding wheel motor	2HP,2P（Inverter）
Coolant pump motor	1/8HP,4P
X-axis servo motor	1.8kw
Z-axis servo motor	1.8kw
Machine weight	2300kgs