



CNC Multi-Function (ID / OD) Grinder

CNC Multi-Function (ID / OD) Grinder
for Long Sized Workpiece

CNC Internal Grinder

High Speed Grinding Spindle for Grinder



Factory I



Factory II

Company Profile

“HURISE Co., Ltd.” has over 40 years experience in grinding processing and manufacturing machines, including in hydraulic internal grinder, external grinder, surface grinder and centerless grinder. Since 1994, HURISE has devoted to the field of internal grinder, and the machine “auto hydraulic internal grinder” was presented to earn recognition and patents.

Since 2001, HURISE has put a lot of efforts and specialized in developing CNC internal grinder. By the time, the innovation “Model: D1-CNC multi-function ID/OD grinder” featured with diversity and flexible functions and received great popularity among markets as well recognized as a leading brand in the industry. Owing to excellent performance of HURISE-grinder, it is not merely obtained various patents internationally but also awarded “12th and 20th Small and Medium Enterprise Innovation Research” by the Ministry of Economy Affairs.

HURISE's grinders are capable for any precision industrial hardware that requires high accuracy such as automobile part, electronic industry, aerospace industry, defense industry, sewing parts and more workpiece.

HURISE's mission is to **Help the User to RISE** at high level production efficiency. We can continue growing thanks to great supports from all customers and reliable employees. With beliefs of offering the most high-quality machines and best services consistently as return to all customers is our goal.



D1

CNC Multi-Function (ID / OD) Grinder



D2

**CNC Multi-Function (ID / OD) Grinder
for Long Sized Workpiece**



S10-F

CNC Internal Grinder

Full Functional Series of Internal Grinder

In 21st century, the entire production industry faces the challenges on diverse and exquisite products. To maximizing the profit and production efficiency for users, HURISE aims to manufacture the optimal grinding machines with the highest quality and provides the most suitable solutions and suggestions to customers.

About Internal Grinder

Internal grinders are mainly designed for grinding internal diameter of a specific workpiece. That is, after the part is processed by a lathe, machining center and so on, the internal grinder will do the fine machining as final step on production.

The conventional internal grinder with single grinding wheel spindle, which can only work for simple parts internal grinding. Following with the industry requirements on accuracy rising around the world, HURISE has committed and dedicated to innovate the new revolutionary internal grinders. Especially, multi-face machining on stricter concentricity for safety consideration, the single wheel spindle grinder is incapable of achieving such high accuracy requirements.

The innovation with number of patents of HURISE's grinders were designed to address the complicated workpiece which requires higher accuracy of concentricity and multi-face machining. The grinder with "twin grinding wheel spindle" and "high end control system" substantially enhance an outstanding performance by grinding multiple faces including ID, OD, surface, end face and taper at one clamping.



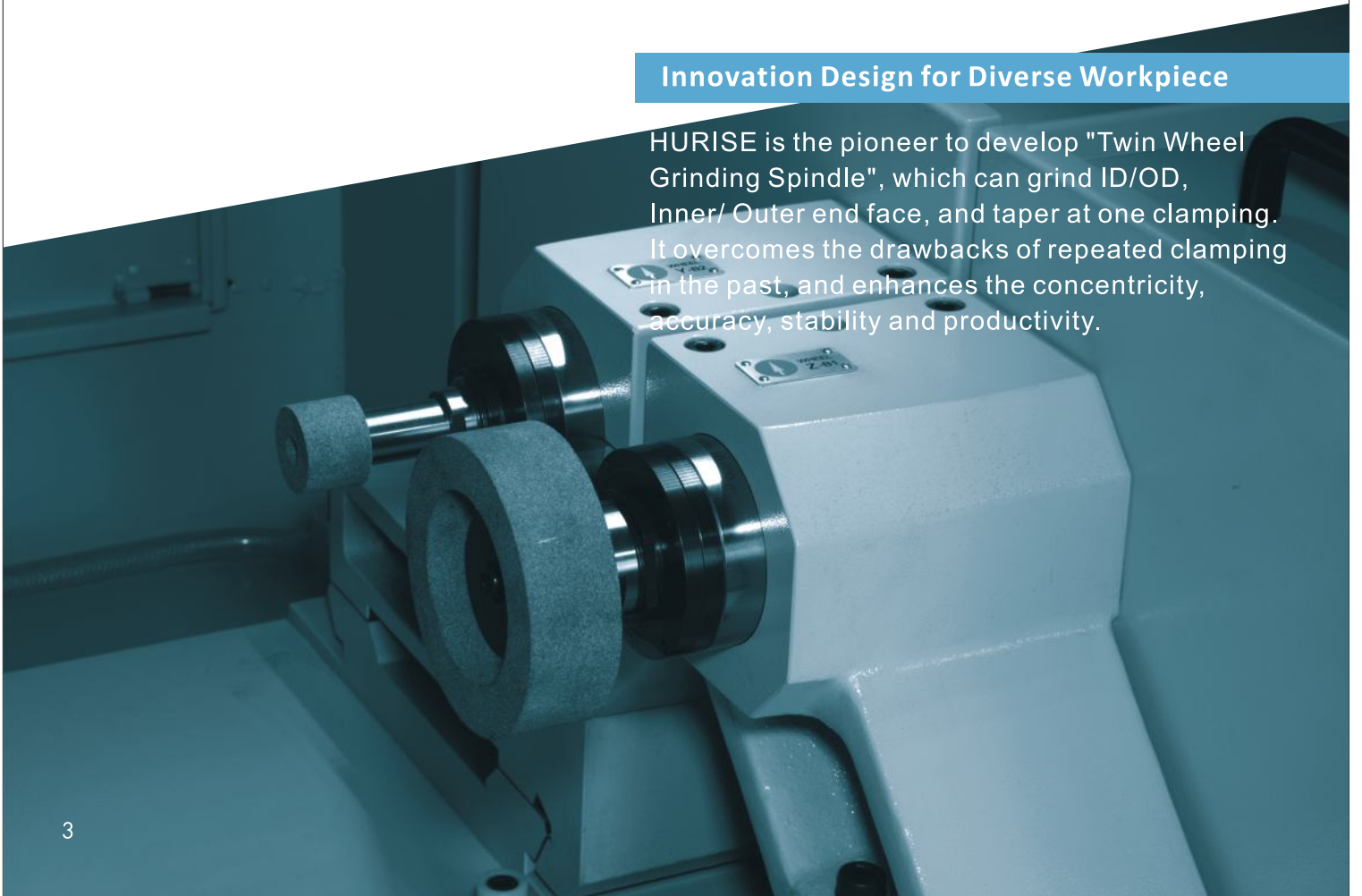


D1 CNC Multi-Function (ID / OD) Grinder



Innovation Design for Diverse Workpiece

HURISE is the pioneer to develop "Twin Wheel Grinding Spindle", which can grind ID/OD, Inner/ Outer end face, and taper at one clamping. It overcomes the drawbacks of repeated clamping in the past, and enhances the concentricity, accuracy, stability and productivity.



D1 CNC Multi-Function (ID / OD) Grinder



User-friendly Operation Interface



Machine D1 was designed for grinding the wide range of workpiece from simple to complex. Our professional R&D team started from the users' perspectives and provide the most proper solutions to meet all geometrically requirements.

Electronic Control System



The electronic cabinet prevents the electronic components from overheating and humidity by incorporating the inner circulation. It features the constant performance and extending service lifetime of the machine. Also, our electronic control system conforms international norm.

Rapid Grinding Mechanism

To further save processing time and increase machining efficiency, the patented "wheel and surface detecting auto grinding mechanism" can quickly detect the contact of the wheel and surface of workpiece for rapid and small amount ID/OD, inner/outer end faces grinding.



Flexible Customized Configuration

Because of our years of grinding experiences, we are good at providing proper and effective solutions to users based on requirements of various workpiece. Assisting the users to reap maximum profit by choosing the most comprehensive combination of tools and accessories to work with the machine. (Please turn to P.13 to refer more details.)





D2 CNC Multi-Function (ID / OD) Grinder for Long Sized Workpiece



Outstanding Design for Shaft Type Workpiece

In order to increase the precision and steadiness for grinding longer workpiece, the unique steady rest can load up 1000mm long to ensure superior accuracy as well as prolong machine's service lifetime.



D2 CNC Multi-Function (ID / OD) Grinder for Long Sized Workpiece

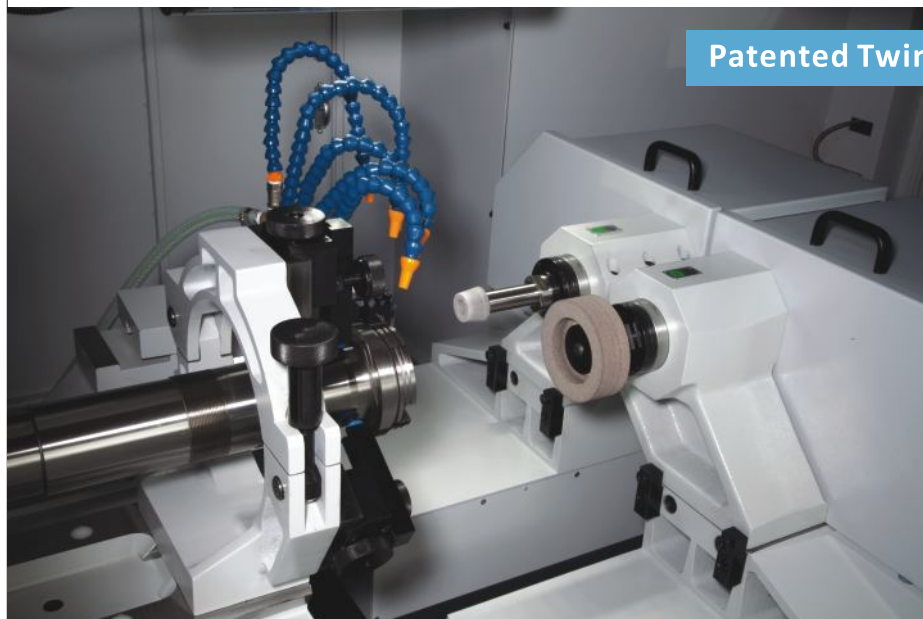


Superior Control System

Combination of both well-known FANUC control system and HURISE-developed software which create the machine with user-friendly operating plus the machining efficiency results is always satisfied by users. Rotatable operation panel let users can be easier and more convenient for adjustment during working.



Patented Twin Grinding Wheel Spindle



The twin grinding wheel spindle can maximize the grinding efficiency to 16 different faces at one grinding cycle. Moreover, because of the vibration shortcoming of conventional cross-stacking movement, HURISE's grinders adopt the "uniaxial movement" design to assure the accuracy of finishing workpiece.

Fast and Effort-Saving Angle Fine-Tune Design

The workhead equipped with hydraulic automatic locking system instead of manual locking one. It can drastically save the time and enhance the accuracy while the operators do angle fine-tune.





S10-F CNC Internal Grinder (Full Cover / Semi Cover)



(Full Cover)

Ideal Internal Grinding Machine

The versatile grinder equipped with FANUC control system, which can accomplish 8 different faces including, ID, end face and taper in one clamping.



S10-F CNC Internal Grinder (Full Cover / Semi Cover)



Full Digitalized Internal Grinder

With the advent of digitalized operation in machine tool industry, all HURISE-made grinders have united with advanced numerical control system. HURISE has aimed goals on "user-friendly operation", "labor-saving production", "mass production efficiency", "high stabilization of accuracy results" and "durable machines' lifetime". We always service all customers at top priority and assist users to achieve in every possible way.



Rigid Machine Structure

The machine base is made from high-density cast iron. The One-Piece-Forming base is designed for long term usages to ensure the machine in well maintaining on structure balance.

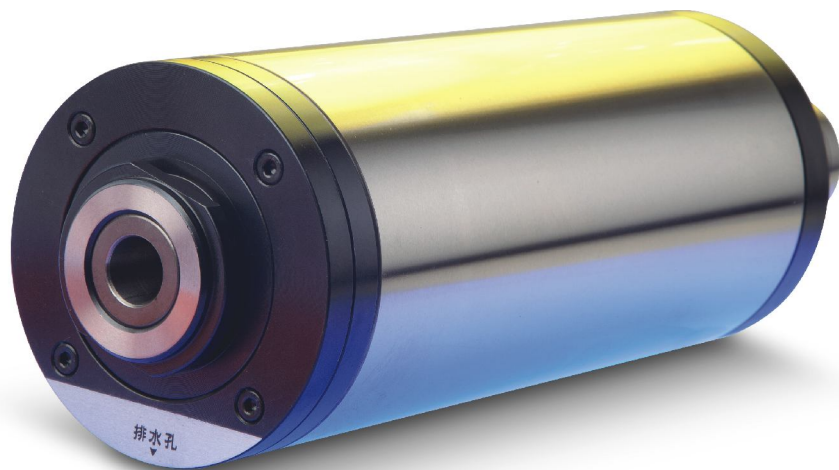


Diverse Choice of Controller

Besides FANUC control system, the MITSUBISHI control system can be opted as well. MITSUBISHI control system provides graphics with conversational interface which also has high-performance of accuracy and efficiency.



High Speed Grinding Spindle for Grinder



Rigid, Efficient and Outstanding

- Grinding wheel spindles (belt type) are available.
- Every spindle undergoes a rigorous inspection to ensure stable and good quality.
- The patented waterproof design extend its lifetime.
- With decades of grinding wheel spindle manufacturing experiences, we continue to invest in new technology to ensure the spindles are rigid, efficient and outstanding.

Specification

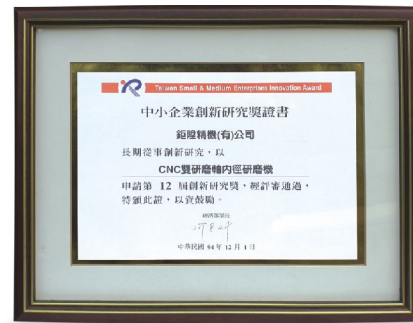
r.p.m.	8,000	10,000 / 15,000 20,000 / 30,000	40,000 / 50,000
Bearing	Steel ball	Steel ball	Ceramic ball
Bearing lubrication	Grease	Grease	Grease
Transmission	Belt	Belt	Belt
Taper deflection	0.002 mm	0.002 mm	0.002 mm
Test bar deflection	0.003 mm	0.003 mm	0.003 mm
Installation	Horizontal	Horizontal	Horizontal
Diameter	90 mm	90 mm	90 mm
Weight	15.9kgs	11kgs	11kgs



Award

The model D1-CNC Multi-Function ID/OD Grinder was awarded the "12th Small and Medium Enterprise Innovation Research Award" by the Ministry of Economic Affairs.

Taiwan patents:
209526、202534、M254300、M340885 etc.



Award



The model D2-CNC Multi-Function ID/OD Grinder was awarded the "20th Small and Medium Enterprise Innovation Research Award" by the Ministry of Economic Affairs.

Taiwan patents:
102203879、101224871、101224872 etc.



Specification

Model	D1	D2
Swing over workhead	Ø 500 mm	Ø 320 mm
Workhead spindle speed	0 - 1,000 r.p.m.	0 - 1,000 r.p.m.
Workhead swiveling angle (manual)	+15° & -5°	+15° & -5°
X-axis max. travel	350 mm	450 mm
Y axis max. travel	350(auto)+250(manual) mm	350(auto)+250(manual) mm
Z-axis max. travel	350(auto)+250(manual) mm	350 mm
ID grinding capacity	Ø 2~400 mm	Ø 2~300 mm
Max. OD grinding capacity	Ø 320 mm	Ø 300 mm
Max. grinding depth	250 mm	250 mm
Max. grinding faces	16	16
Max. weight of workpiece	50 kgs	300 kgs (W / Steady Rest)
X-axis increment speed	0~10,000 mm / min	0~10,000 mm / min
Y-axis increment speed	0~10,000 mm / min	0~10,000 mm / min
Z-axis increment speed	0~10,000 mm / min	0~10,000 mm / min
X-axis min. increment	0.0001 mm	0.0001 mm
Y-axis min. increment	0.0001 mm	0.0001 mm
Z-axis min. increment	0.0001 mm	0.0001 mm
Workhead spindle motor	1.5 kw, 4p (opt. 2.2kw)	1.5 kw, 4p (opt. 2.2kw)
Y-axis grinding wheel spindle	2.2 kw, 2p (opt. 3.7kw)	2.2 kw, 2p (opt. 3.7kw)
Z-axis grinding wheel spindle	2.2 kw, 2p (opt. 3.7kw)	2.2 kw, 2p (opt. 3.7kw)
Power requirement	15 kw	15 kw
Machine dimension	2365(W) x 1880(D) x 1830(H) mm	3650(W) x 1950(D) x 1960(H) mm
Space for installation	3450(W) x 2860(D) x 2350(H) mm	4610(W) x 2810(D) x 2370(H) mm
Machine weight	4,000 kgs	6,100 kgs



Model	S10-F / S10-M
Swing over workhead	∅ 400 mm
Workhead spindle speed	0 - 1,000 r.p.m.
Workhead swiveling angle (manual)	+15° & -5°
X-axis max. travel	200 mm
Z-axis max. travel	330(auto)+200(manual) mm
ID grinding capacity	∅ 2~300 mm
Max. grinding depth	200 mm
Max. grinding face	8
Max. weight of workpiece	45 kgs
X-axis increment speed	0~10,000 mm / min
Z-axis increment speed	0~10,000 mm / min
X-axis min. increment	0.0001 mm
Z-axis min. increment	0.0001 mm
Workhead spindle motor	1.5 kw, 4p (opt. 2.2kw)
Z-axis grinding wheel spindle	2.2 kw, 2p (opt. 3.7kw)
Power requirement	10kw
Machine dimension	2300(W) x 1350(D) x 1810(H) mm
Space for installation	3370(W) x 2250(D) x 2410(H) mm
Machine weight	3,000 kgs



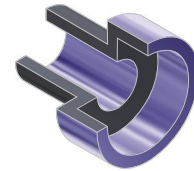
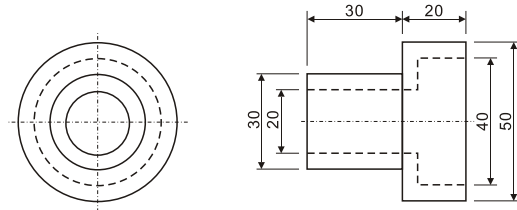
Accessory

Standard Accessories

Model	D1	D2	S10-F	S10-M
FANUC control system	⊙	⊙	⊙	—
MITSUBISHI control system	⊙	—	—	⊙
X / Y / Z-axis FANUC servo motor	⊙	⊙	—	—
X / Y / Z-axis MITSUBISHI servo motor	⊙	—	—	—
X / Z-axis FANUC servo motor	—	—	⊙	—
X / Z-axis MITSUBISHI servo motor	—	—	—	⊙
X / Y / Z-axis NSK linear guideway	⊙	⊙	—	—
X / Z-axis NSK linear guideway	—	—	⊙	⊙
X / Y / Z-axis NSK ball screw	⊙	⊙	—	—
X / Z-axis NSK ball screw	—	—	⊙	⊙
X / Y / Z-axis SIEMENS motor	⊙	⊙	—	—
X / Z-axis SIEMENS motor	—	—	⊙	⊙
Wheel and surface detecting auto grinding mechanism	⊙	⊙	⊙	—
Dresser stand	4 - Way	4 - Way	4 - Way	4 - Way
Automatic lubrication system	⊙	⊙	⊙	⊙
Cover	Full	Full	Semi	Semi
Working lamp	⊙	⊙	⊙	⊙
3-color indication signal light	⊙	⊙	⊙	⊙
Tools & tool box	⊙	⊙	⊙	⊙

Optional Accessories

Hydraulic chuck	Safety door interlock
Manual chuck	Grinding wheel spindle (8,000~50,000rpm)
Diaphragm chuck	Steady rest (for D2)
Oil mist collector	Rotary dresser
Full splash guard (for S10 series)	Coolant tank and filtering system (including oil skimmer, magnetic separator and paper filter)
Manual Face grinding attachment (for S10 series with semi cover)	

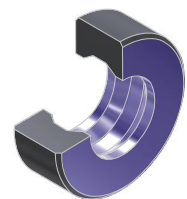
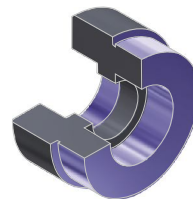
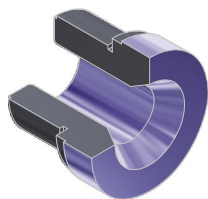
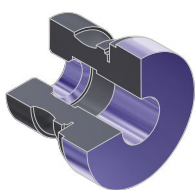
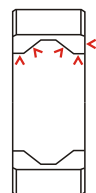
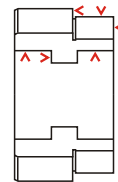
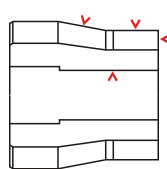
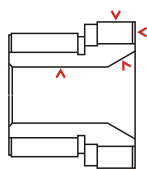
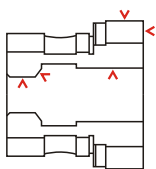


Example (unit: mm)

Report

Model	D1	D2	S10-F	S10
ID Roundness	<0.001 mm	<0.001 mm	<0.001 mm	<0.001 mm
ID Cylindricity	<0.001 mm	<0.001 mm	<0.001 mm	<0.001 mm
OD Roundness	<0.001 mm	<0.001 mm	---	---
OD Cylindricity	<0.001 mm	<0.001 mm	---	---
ID Tolerance	<0.003 mm	<0.003 mm	<0.003 mm	<0.003 mm
Face Tolerance	<0.003 mm	<0.003 mm	<0.003 mm	---
ID Roughness	Ra0.15~0.3	Ra0.15~0.3	Ra0.15~0.3	Ra0.15~0.3
OD Roughness	Ra0.2~0.3	Ra0.2~0.3	---	---
Face Roughness	Ra0.6~0.8	Ra0.6~0.8	Ra0.6~0.8	---
ID/Face Perpendicularity	<0.002 mm	<0.002 mm	<0.002 mm	---

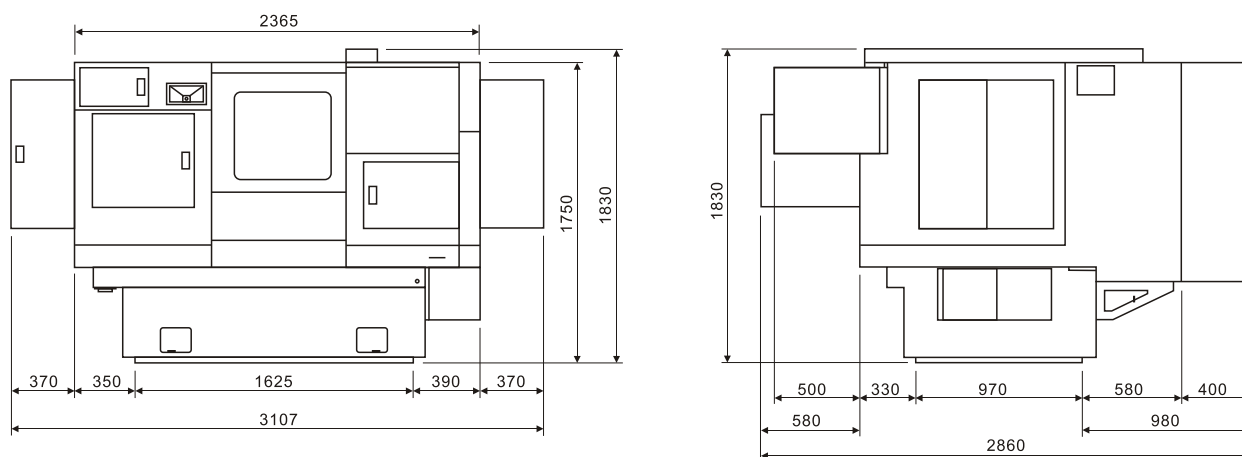
Samples



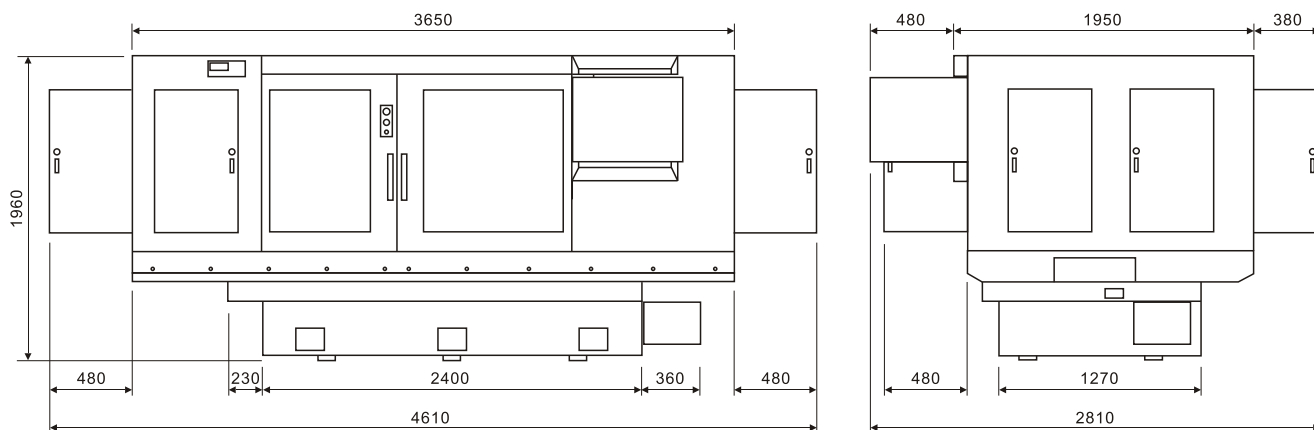


Machine Dimension

D1 CNC Multi-Function (ID / OD) Grinder

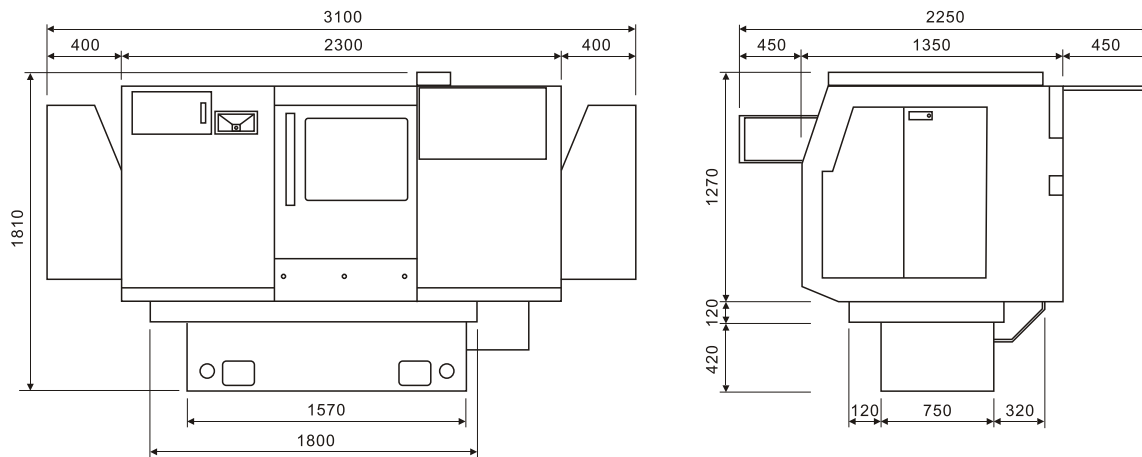


D2 CNC Multi-Function (ID / OD) Grinder for Long Sized Workpiece

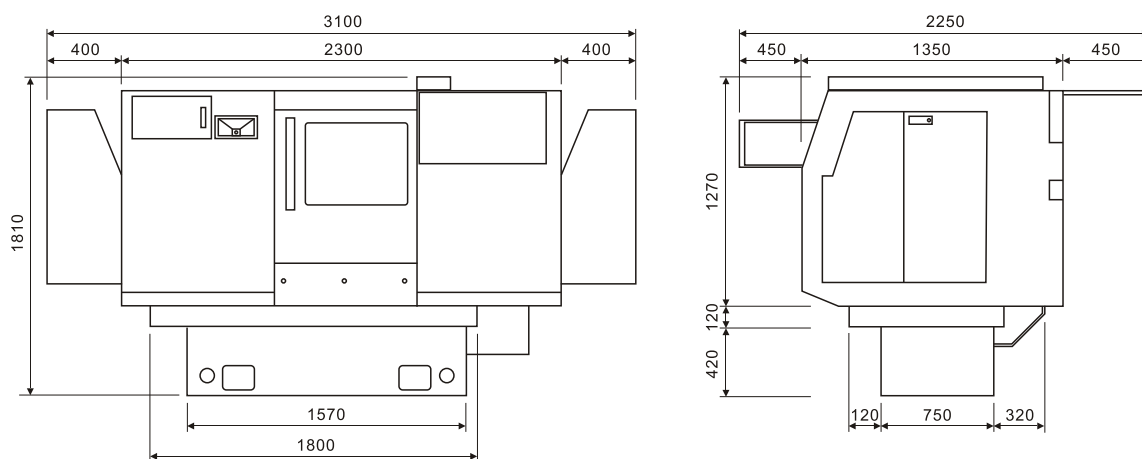




S10-F CNC Internal Grinder (Full Cover / Semi Cover)



S10-M CNC Internal Grinder (Full Cover / Semi Cover)



(Unit:mm)

© The above information is based on technical levels of our machine at the time this brochure goes to print. We reserve the right to develop our machines technically and make design modifications. This means that the functions, dimensions, weights, colors, etc. of machines supplied would differ. Diverse application possibilities of our machines depend on technical equipment specifically requested by customers.

2018.11.500.v03



HURISE CO., LTD.

www.hurise.com.tw

鉅陞精機

No. 6, Jingke Central 2nd Rd., Nantun Dist.,
Taichung City 40852, TAIWAN
TEL : +886-4-23500775 FAX : +886-4-23500776
e-mail : service@hurise.com.tw