

HIGH PRECISION DOUBLE COLUMN SURFACE GRINDER



Hone Right Precision Machinery Co., Ltd.

No.53, Renhuagong 19th Rd., Dali Dist.,
Taichung City 41278, Taiwan
TEL:+886-4-2491-3458 FAX:+886-4-2491-5633
E-MAIL:Loretta@hr-grinding.com.tw
www.hr-grinding.com.tw

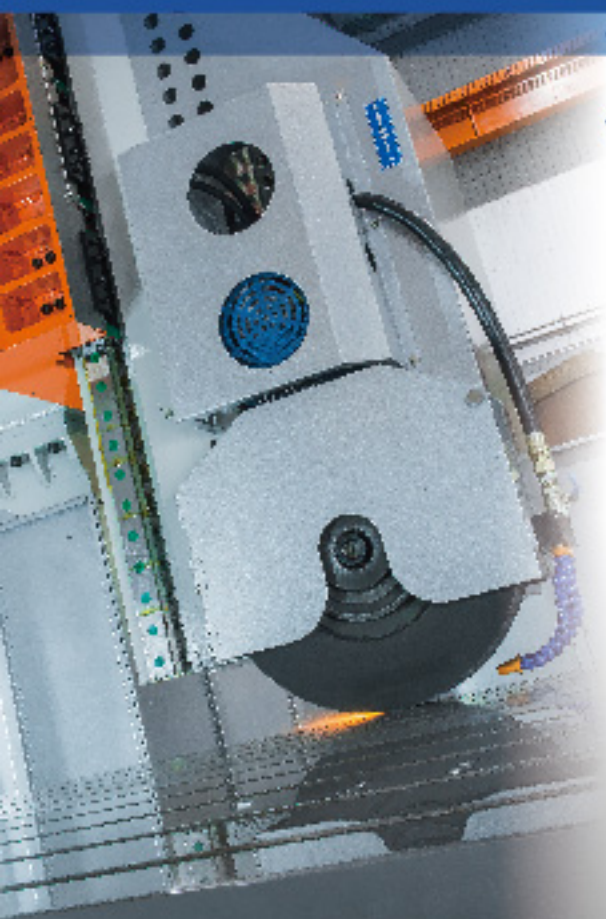
1629100021 88

Hone Right Precision machinery co., Ltd.





CNC HIGH PRECISION DOUBLE COLUMN GRINDER



History of Hone Right

In 1989, Established Machining Plant with Various Double Column Machine Tools

- Specialized in machining of large workpieces.
- Maximum sizes of machining equipment: 14,000 x 5,000 x 3,200 mm.
- Customers include world-renowned machine tool manufacturers from Europe, America and Japan.

In 1992, Established Surface Grinding Plant

- All surface grinders are designed, built and used in-house.
- Range of machine specifications is from 3M~22M, among which the 22M machine is the largest double column surface grinder in Taiwan.
- Customers include renowned manufacturers from Italy, Spain, Poland, Germany, U.K., America and Taiwan.
- With over 20 years of operational experience and constant improvements, we fully understand the actual requirements of users and have the know-how to build the high performance and high precision grinders. As such, Hone Right Precision Machining Co., Ltd. was found.

In 2013, Established Hone Right Precision Machining Co., Ltd.

- Specialized in manufacturing of large type double column grinders.
- Machine specifications are customized to meet customers' specific requirements, allowing customers to share our extensive experience in practical grinding operations.

DOUBLE COLUMN SURFACE GRINDER

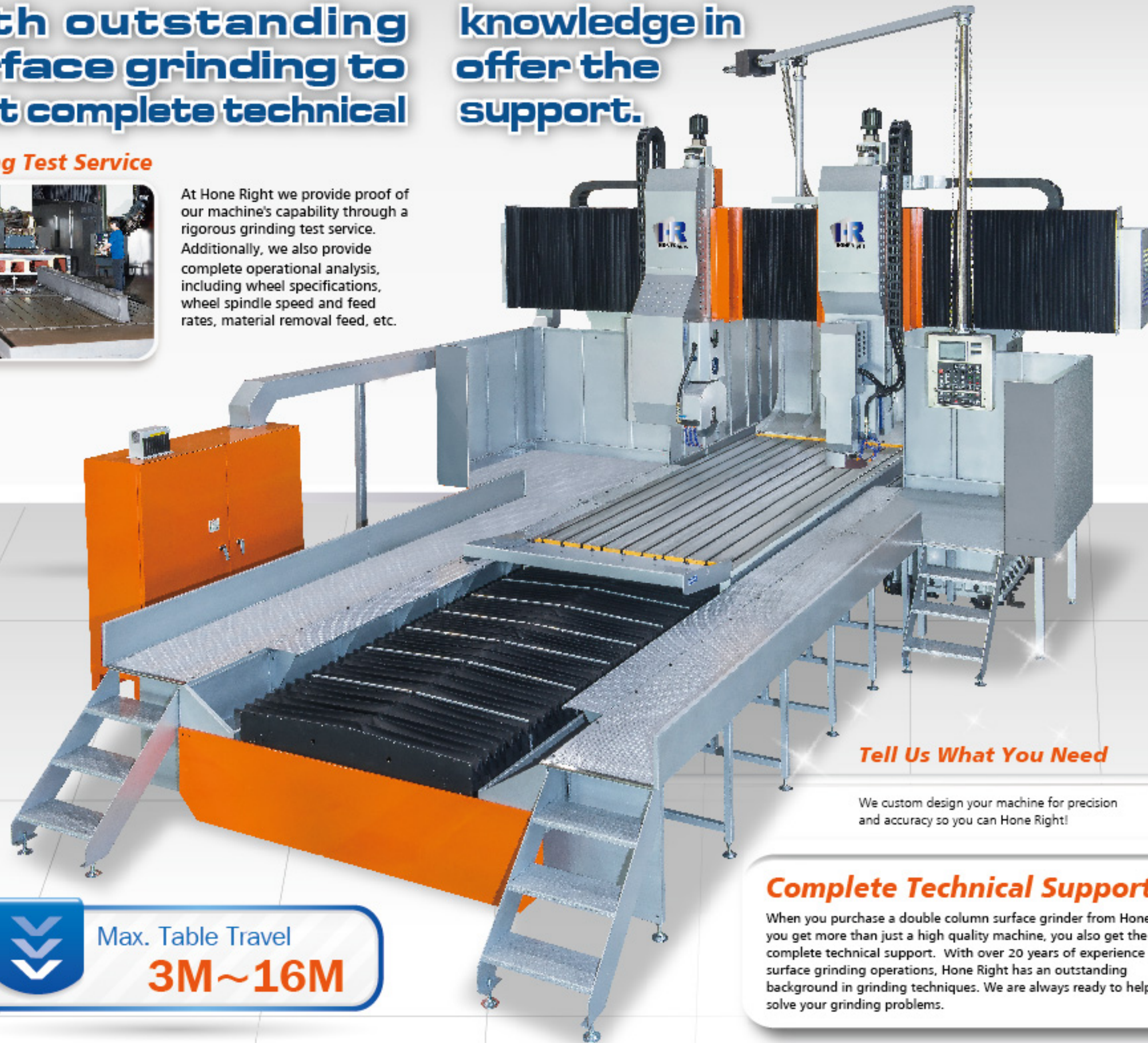
With outstanding surface grinding to most complete technical

knowledge in offer the support.

Grinding Test Service



At Hone Right we provide proof of our machine's capability through a rigorous grinding test service. Additionally, we also provide complete operational analysis, including wheel specifications, wheel spindle speed and feed rates, material removal feed, etc.



Laser Inspection

Hone Right Q.C. Department applies the laser instrument to inspect the straightness accuracy of the structural parts. Straightness Accuracy: 0.008 mm/3 meters.



Electronic Level Gauge

An electronic level gauge is applied to inspect the level accuracy of a workpiece surface.



Hydraulic Power Unit

- The hydraulic power unit employs a powerful device, providing powerful drive for X-axis movement.
- Smooth movement on X-axis can be ensured even at low speed.
- The cooler enables the hydraulic oil to maintain a constant temperature for reliable operation.



Circulated Lubrication Oil Circuit

Lubrication oil is circulated and detected. In case of lack of oil, the machine stops automatically.



Spindle Oil Cooler

The spindle oil cooler allows the spindle to run at a constant temperature, reducing thermal deformation of the spindle to a minimum.

Tell Us What You Need

We custom design your machine for precision and accuracy so you can Hone Right!

Complete Technical Support

When you purchase a double column surface grinder from Hone Right, you get more than just a high quality machine, you also get the most complete technical support. With over 20 years of experience in surface grinding operations, Hone Right has an outstanding background in grinding techniques. We are always ready to help and solve your grinding problems.

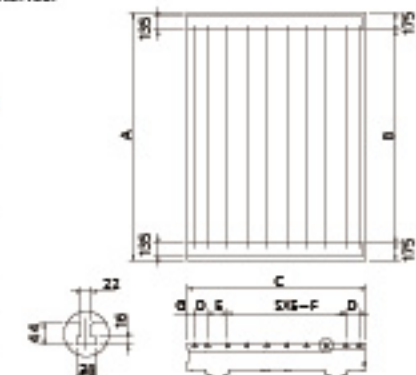
Max. Table Travel

3M~16M

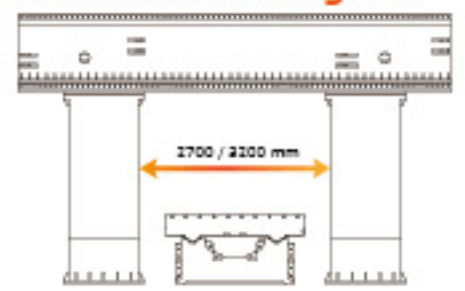
Table

- The table slideways are coated with Turcite-B for wear-resistance.
- The table surface is milled with precision T-Slots.

NO.	TGA1804	TGA1805	TGA1806	TGA1807
A	4,500	5,500	6,500	7,500
B	4,150	5,150	6,150	7,150
C	1,800	1,800	1,800	1,800
D	130	130	130	130
E	200	200	200	200
F	1,200	1,200	1,200	1,200
G	70	70	70	70
S	6	6	6	6



Door Width / X-axis Travel Diagram





Extra Rigid Beam and Column

- » The massive cross beam and double columns are reinforced by radical shape ribs to increase structural rigidity, dampen vibration and reduce deflection.



8 Blocks on Z-axis

- » Z-axis moves on linear ways with greater span in combination with 8 blocks, providing a solid support for the wheel head to achieve better surface finish.



Horizontal Spindle Wheel Head

- » The horizontal spindle wheel head is driven by a powerful motor allowing heavy material removal.
- » The wheel head is mounted with a Ø610 mm grinding wheel.
- » In case an overload occurs, the machine stops automatically for safety.



Vertical Spindle Wheel Head

- » The vertical spindle wheel head can be tilted 50° right and left enabling the machine to perform angular grinding.
- » Wheel head tilting is adjusted manually through a worm gear transmission for effortless adjustment.
- » The wheel head is mounted with a Ø405 mm grinding wheel.
- » In case an overload occurs, the machine stops automatically for safety.



Pendant Control Box

- » The pendant control box can be moved to any position, making workpiece setup and running test easy.

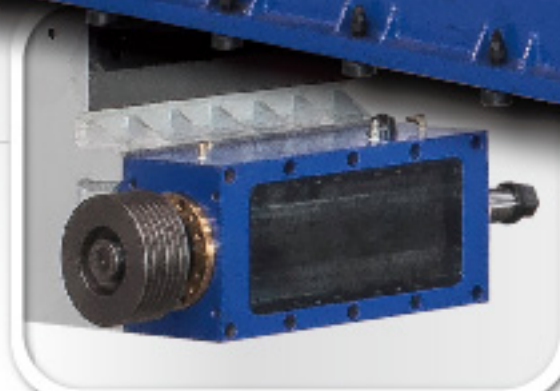
Choice of NC or CNC Control

- » The surface grinder is available to equip with a NC or CNC control, featuring powerful functions and making grinding operation easy to learn and operate.



X-axis Driven by Hydraulic Cylinder

- » The X-axis movement is driven by a double-acting hydraulic cylinder, featuring smooth motion without deformation or oil leakage problem.
- » X-axis moving speed can be adjusted on the control panel.
- » The hydraulic system features buffering function to eliminate impact problem at the end of stroke. It not only provides a protection for the hydraulic cylinder but also extends cylinder life.



Oil Film Surrounded Spindle

- » The wheel spindle is supported by a metal bushing which is surrounded by an oil film. This reduces heat friction, abnormal wear and provides smooth operation for a better surface finish.



Double "V" Slideways on Base

- » Extra large double "V" slideways on the base effectively increase contact area between mating surfaces. This provides the rigid support for heavy workpieces.

Specifications

■ TGA Series Door Width: 2700mm ■ TGS Series Door Width: 3000mm ■ TGX Series Door Width: 4600mm

MODEL	UNIT	TGA1803	TGA1804	TGA1805	TGA1806	TGA1807	TGA1808	TGA1809	TGA1810	TGA1811	TGA1812	TGA1813	TGA1814	TGA1815	TGA1816		
Table area (L x W)	mm (inch)	3500 x 1800 (137.7"x70.8")	4500 x 1800 (177"x70.8")	5500 x 1800 (216.5"x70.8")	6500 x 1800 (255.9"x70.8")	7500 x 1800 (295"x70.8")	8500 x 1800 (334.6"x70.8")	9500 x 1800 (374"x70.8")	10500 x 1800 (413"x70.8")	11500 x 1800 (452.7"x70.8")	12500 x 1800 (492.7"x70.8")	13500 x 1800 (531"x70.8")	14500 x 1800 (570.8"x70.8")	15500 x 1800 (610"x70.8")	16500 x 1800 (649.6"x70.8")		
Max. table load	kg (lbs)	6000 (13227.7)	7000 (15432)	8000 (17636.9)	10000 (22046)	12000 (26455)	15000 (33069)	18000 (39683)	21000 (46297)	24000 (52910)	27000 (59524.7)	30000 (66138.6)	33000 (72752)	36000 (79366)	39000 (85980)		
Table travel	mm (inch)	3100 (122")	4100 (161")	5100 (200.7")	6100 (240")	7100 (279.5")	8100 (318.8")	9100 (358")	10100 (397.6")	11100 (437")	12100 (476")	13100 (515.7)	14100 (555")	15100 (594")	16100 (633.8")		
Z-axis travel																	
Spindle (Horiz. spindle wheel head)	mm(inch)	1300 (51")				1300 (51")				1300 (51")				1300 (51")			
Sub-spindle (Vert. spindle wheel head)	mm(inch)	1300 (51")				1300 (51")				1300 (51")				1300 (51")			
Y-axis travel																	
Spindle (Horiz. spindle wheel head)	mm(inch)	3490 (137")				3490 (137")				3490 (137")				3490 (137")			
Sub-spindle (Vert. spindle wheel head)	mm(inch)	3490 (137")				3490 (137")				3490 (137")				3490 (137")			
Spindle (Horiz. Spindle wheel head)																	
Jog down feed	mm	0.005–0.010				0.005–0.010				0.005–0.010				0.005–0.010			
Down feed rate	mm / min	2-500				2-500				2-500				2-500			
Spindle speed	r.p.m.	900–1100				900–1100				900–1100				900–1100			
Motor	HP(Kw)	25(18.5)	25(18.5)	25(18.5)	25(18.5)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)		
Grinding wheel sizes (OD x T x ID)	mm(inch)	610 x 100 x 203 (24" x 4" x 8")				610 x 100 x 203 (24" x 4" x 8")				610 x 100 x 203 (24" x 4" x 8")				610 x 100 x 203 (24" x 4" x 8")			
Sub-spindle (Vert. spindle wheel head)																	
Jog down feed	mm	0.005–0.010				0.005–0.010				0.005–0.010				0.005–0.010			
Down feed rate	mm / min	2-500				2-500				2-500				2-500			
Sub-spindle speed	r.p.m.	1000–1600				1000–1600				1000–1600				1000–1600			
Motor	HP(Kw)	15(11)				15(11)				15(11)				15(11)			
Grinding wheel size (OD x T x ID)	mm(inch)	405 x 80 x 127 (16" x 3" x 5")				405 x 80 x 127 (16" x 3" x 5")				405 x 80 x 127 (16" x 3" x 5")				405 x 80 x 127 (16" x 3" x 5")			
Distance between columns	mm(inch)	2700 (106")				2700 (106")				2700 (106")				2700 (106")			
Distance from spindle center to table	mm(inch)	1700 (66")				1700 (66")				1700 (66")				1700 (66")			
Distance from sub-spindle center to table	mm(inch)	1350 (53")				1350 (53")				1350 (53")				1350 (53")			
Sub-spindle head tilting degree	degree	±50°				±50°				±50°				±50°			
Grinding feed rate	mm / min	10,000–30,000				10,000–30,000				10,000–30,000				10,000–30,000			
Y-axis feed each time	mm	0–100				0–100				0–100				0–100			
Least feed unit on Z-axis	mm	0.002				0.002				0.002				0.002			
Y-axis feed per graduation of hand wheel	mm	0.002				0.002				0.002				0.002			
Y-axis motor	HP(Kw)	2.68 (2)				2.68 (2)				2.68 (2)				2.68 (2)			
Z-axis motor	HP(Kw)	2.68 (2)				2.68 (2)				2.68 (2)				2.68 (2)			
Power required																	
Voltage	V	AC 220±10% + 50/60 Hz ±1 Hz				AC 220±10% + 50/60 Hz ±1 Hz				AC 220±10% + 50/60 Hz ±1 Hz				AC 220±10% + 50/60 Hz ±1 Hz			
Control	KVA	NC / PC base				NC / PC base				NC / PC base				NC / PC base			
Machine dimensions																	
Machine height	mm(inch)	6000(236")	6000(236")	6000(236")	6000(236")	6,000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")		
Floor space	mm (inch)	13000 x 8500 (511.8"x334.6")	15000 x 8500 (590"x334.6")	17000 x 8500 (669"x334.6")	19000 x 8500 (748"x334.6")	21000 x 8500 (826"x334.6")	23000 x 8500 (905.5"x334.6")	25000 x 8500 (984"x334.6")	27000 x 8500 (1062.9"x334.6")	29000 x 8500 (1141.7"x334.6")	31000 x 8500 (1220"x334.6")	33000 x 8500 (1299"x334.6")	35000 x 8500 (1377.9"x334.6")	37000 x 8500 (1456.6"x334.6")	39000 x 8500 (1535"x334.6")		
Machine weight	kg (lbs)	56500 (124561)	62500 (137788.8)	70500 (155425.7)	80500 (177471.9)	92500 (203927)	106500 (234792)	122500 (270066)	140500 (309749)	158500 (349432)	176500 (389115.6)	194500 (428798.7)	212500 (468481.9)	230500 (508165)	248500 (547848)		

■ Specifications are subject to change without prior notice.

- STANDARD ACCESSORIES**
- Grinding wheel balancing stand
 - Grinding wheel balancing arbor for main spindle
 - Grinding wheel balancing arbor for sub-spindle
 - Wheel flange for main spindle x 2 sets
 - Wheel flange for sub-spindle x 2 sets
 - Bottom grinding wheel flange for sub-spindle x 2 sets
 - Wheel flange extractor

- Wheel lifting tool for main spindle
- Standard grinding wheel (Ø610 x 70 x 203) for main spindle x 1 pce
- Standard grinding wheel (Ø610 x 70 x 203) for main spindle x 1 pce
- Standard grinding wheel (Ø405 x 60 x 127) for sub-spindle x 1 pce
- 50° grinding wheel (Ø405 x 60 x 127) for sub-spindle x 1 pce

- Bottom grinding wheel (Ø205 x 50 x 127) for sub-spindle x 1 pce
- Hydraulic oil cooler
- Circulated cooling temperature display
- Diamond dresser x 2 pcs/set
- Standard magnetic base x 2 pcs
- Stainless steel operation box
- Foundation drawing
- Foundation bolts, leveling bolts and leveling blocks x 1 set

- Electric wiring diagram
- Operation manual
- Tool box

OPTIONAL ACCESSORIES

- Spare main spindle assembly
- Spare sub-spindle assembly
- Spare wheel flange for main spindle
- Spare wheel flange for sub-spindle
- Spare bottom grinding wheel flange for sub-spindle
- Wheel dresser for sub-spindle
- Semi-enclosed stainless steel guard
- Specified machine color

Specifications

■ TGA Series Door Width: 2700mm ■ TGS Series Door Width: 3000 mm ■ TGX Series Door Width: 4600mm

MODEL	UNIT	TGS2304	TGS2305	TGS2306	TGS2307	TGS2308	TGS2309	TGS2310	TGS2311	TGS2312	TGS2313	TGS2314	TGS2315	TGS2316	TGX3005	TGX3006	TGX3007	TGX3008	TGX3009	TGX3010	TGX3011	TGX3012	TGX3013	TGX3014	TGX3015	TGX3016	
Table area (L x W)	mm (inch)	4500 x 2300 (177" x 90.5")	5500 x 2300 (216" x 90.5")	6500 x 2300 (255" x 90.5")	7500 x 2300 (295" x 90.5")	8500 x 2300 (334" x 90.5")	9500 x 2300 (374" x 90.5")	10500 x 2300 (413" x 90.5")	11500 x 2300 (452.7" x 90.5")	12500 x 2300 (492" x 90.5")	13500 x 2300 (531" x 90.5")	14500 x 2300 (570" x 90.5")	15500 x 2300 (610" x 90.5")	16500 x 2300 (649.6" x 90.5")	5500 x 3000 (215.5" x 118")	6500 x 3000 (255" x 118")	7500 x 3000 (295" x 118")	8500 x 3000 (334.6" x 118")	9500 x 3000 (374" x 118")	10500 x 3000 (413" x 118")	11500 x 3000 (452.7" x 118")	12500 x 3000 (492" x 118")	13500 x 3000 (531" x 118")	14500 x 3000 (570" x 118")	15500 x 3000 (610" x 118")	16500 x 3000 (649.6" x 118")	
Max. table load	kg (lbs)	16000 (35274)	18000 (39683)	20000 (44082)	23000 (50706)	26000 (57320)	29000 (63934)	32000 (70547.9)	35000 (77161.7)	38000 (83775.6)	41000 (90389.5)	44000 (97003)	47000 (103617)	50000 (110231)	27000 (59524.7)	30000 (66138.6)	33000 (72752)	36000 (79366)	39000 (85980)	42000 (92594)	45000 (99208)	48000 (105821.8)	51000 (112435.7)	54000 (119049.6)	57000 (125663)	60000 (132277)	
Table travel	mm (inch)	4100 (161")	5100 (200.7")	6100 (240")	7100 (279.5")	8100 (318.8")	9100 (358")	10100 (397.6")	11100 (437")	12100 (476")	13100 (515.7")	14100 (555")	15100 (594")	16100 (633.8")	5100 (200.7")	6100 (240")	7100 (279.5")	8100 (318.8")	9100 (358")	10100 (397.6")	11100 (437")	12100 (476")	13100 (515.7")	14100 (555")	15100 (594")	16100 (633.8")	
Z-axis travel																											
Spindle (Horiz. spindle wheel head)	mm (inch)	1,300 (51")						1,300 (51")						1,300 (51")						1,300 (51")							
Sub-spindle (Vert. spindle wheel head)	mm (inch)	1,300 (51")						1,300 (51")						1,300 (51")						1,300 (51")							
Y-axis travel																											
Spindle (Horiz. spindle wheel head)	mm (inch)	4090 (161")						4090 (161")						5390 (212")						5390 (212")							
Sub-spindle (Vert. spindle wheel head)	mm (inch)	4090 (161")						4090 (161")						5390 (212")						5390 (212")							
Spindle (Horiz. Spindle wheel head)																											
Jog down feed	mm	0.005-0.010						0.005-0.010						0.005-0.010						0.005-0.010							
Down feed rate	mm / min	2-500						2-500						2-500						2-500							
Spindle speed	r.p.m.	900-1100						900-1100						900-1100						900-1100							
Motor	HP(Kw)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)	30(22)
Grinding wheel sizes (OD x T x ID)	mm (inch)	610 x 100 x 203 (24" x 4" x 8")						610 x 100 x 203 (24" x 4" x 8")						610 x 100 x 203 (24" x 4" x 8")						610 x 100 x 203 (24" x 4" x 8")							
Sub-spindle (Vert. spindle wheel head)																											
Jog down feed	mm	0.005-0.010						0.005-0.010						0.005-0.010						0.005-0.010							
Down feed rate	mm / min	2-500						2-500						2-500						2-500							
Sub-spindle speed	r.p.m.	1000-1600						1000-1600						1000-1600						1000-1600							
Motor	HP(Kw)	15(11)						15(11)						15(11)						15(11)							
Grinding wheel size (OD x T x ID)	mm (inch)	405 x 80 x 127 (16" x 3" x 5")						405 x 80 x 127 (16" x 3" x 5")						405 x 80 x 127 (16" x 3" x 5")						405 x 80 x 127 (16" x 3" x 5")							
Distance between columns	mm (inch)	3200 (125.9")						3200 (125.9")						4600 (181")						4600 (181")							
Distance from spindle center to table	mm (inch)	1700 (66")						1700 (66")						1700 (66")						1700 (66")							
Distance from sub-spindle center to table	mm (inch)	1350 (53")						1350 (53")						1350 (53")						1350 (53")							
Sub-spindle head tilting degree	degree	±50°						±50°						±50°						±50°							
Grinding feed rate	mm / min	10,000-30,000						10,000-30,000						10,000-30,000						10,000-30,000							
Y-axis feed each time	mm	0-100						0-100						0-100						0-100							
Least feed unit on Z-axis	mm	0.002						0.002						0.002						0.002							
Y-axis feed per graduation of hand wheel	mm	0.002						0.002						0.002						0.002							
Y-axis motor	HP(Kw)	2.68 (2)						2.68 (2)						2.68 (2)						2.68 (2)							
Z-axis motor	HP(Kw)	2.68 (2)						2.68 (2)						2.68 (2)						2.68 (2)							
Power required																											
Voltage	V	AC 220±10% , 50/60 Hz ±1 Hz						AC 220±10% , 50/60 Hz ±1 Hz						AC 220±10% , 50/60 Hz ±1 Hz						AC 220±10% , 50/60 Hz ±1 Hz							
Control	KVA	NC / PC base						NC / PC base						NC / PC base						NC / PC base							
Machine dimensions																											
Machine height	mm (inch)	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")	6000(236")
Floor space	mm (inch)	15000 x 9000 (590" x 354")	17000 x 9000 (669" x 354")	19000 x 9000 (748" x 354")	21000 x 9000 (826" x 354")	23000 x 9000 (905" x 354")	25000 x 9000 (984" x 354")	27000 x 9000 (1062" x 354")	29000 x 9000 (1141.7" x 354")	31000 x 9000 (1220" x 354")	33000 x 9000 (1299" x 354")	35000 x 9000 (1377.9" x 354")	37000 x 9000 (1456.6" x 354")	39000 x 9000 (1535" x 354")	17000 x 10500 (669" x 413")	19000 x 10500 (748" x 413")	21000 x 10500 (826.7" x 413")	23000 x 10500 (905.5" x 413")	25000 x 10500 (984" x 413")	27000 x 10500 (1062.9" x 413")	29000 x 10500 (1141.7" x 413")	31000 x 10500 (1220" x 413")	33000 x 10500 (1299" x 413")	35000 x 10500 (1377.9" x 413")	37000 x 10500 (1456.6" x 413")	39000 x 10500 (1535" x 413")	
Machine weight	kg (lbs)	6800 (1499.4)	7400 (1631.1)	8500 (1873.2)	9600 (2116.3)	10700 (2358.4)	12000 (2645.5)	13300 (2932.1)	14600 (3218.7)	16100 (3544.3)	17700 (3908.9)	19300 (4264.5)	20900 (4607.7)	22500 (4968.9)	9200 (2028.2)	10500 (231.48)	12000 (2645.5)	13500 (2976.3)	15000 (3317.1)	17000 (3747.5)	18500 (4085.8)	20000 (4424.4)	21500 (4739.3)	23000 (5076.2)	24500 (5413.2)	26200 (5776.0)	

■ Specifications are subject to change without prior notice.

STANDARD ACCESSORIES

- Grinding wheel balancing stand
- Grinding wheel balancing arbor for main spindle
- Grinding wheel balancing arbor for sub-spindle
- Wheel flange for main spindle x 2 sets
- Wheel flange for sub-spindle x 2 sets
- Bottom grinding wheel flange for sub-spindle x 2 sets
- Wheel flange extractor

- Wheel lifting tool for main spindle
- Standard grinding wheel (Ø610 x 70 x 203) for main spindle x 1 pce
- Standard grinding wheel (Ø610 x 70 x 203) for sub-spindle x 1 pce
- Standard grinding wheel (Ø405 x 60 x 127) for sub-spindle x 1 pce
- 50" grinding wheel (Ø405 x 60 x 127) for sub-spindle x 1 pce

- Bottom grinding wheel (Ø205 x 50 x 127) for sub-spindle x 1 pce
- Hydraulic oil cooler
- Circulated cooling temperature display
- Diamond dresser x 2 pcs/set
- Standard magnetic base x 2 pcs
- Stainless steel operation box
- Foundation drawing
- Foundation bolts, leveling bolts and leveling blocks x 1 set

- Electric wiring diagram
- Operation manual
- Tool box

OPTIONAL ACCESSORIES

- Spare main spindle assembly
- Spare sub-spindle assembly
- Spare wheel flange for main spindle
- Spare wheel flange for sub-spindle
- Spare bottom grinding wheel flange for sub-spindle
- Wheel dresser for sub-spindle
- Semi-enclosed stainless steel guard
- Specified machine color