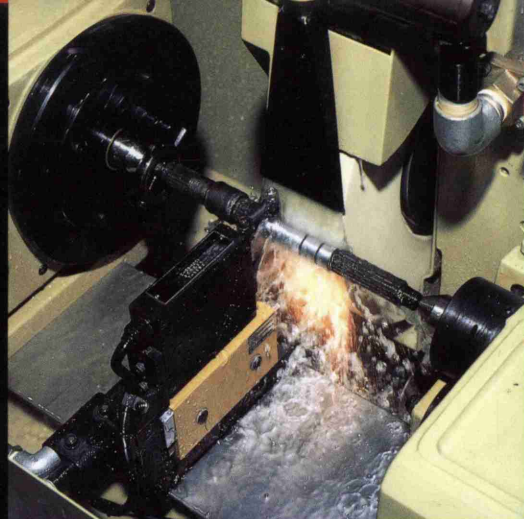


30 40



SHIGIYA
G-30(40)
SERIES
CYLINDRICAL · UNIVERSAL
GRINDING MACHINES



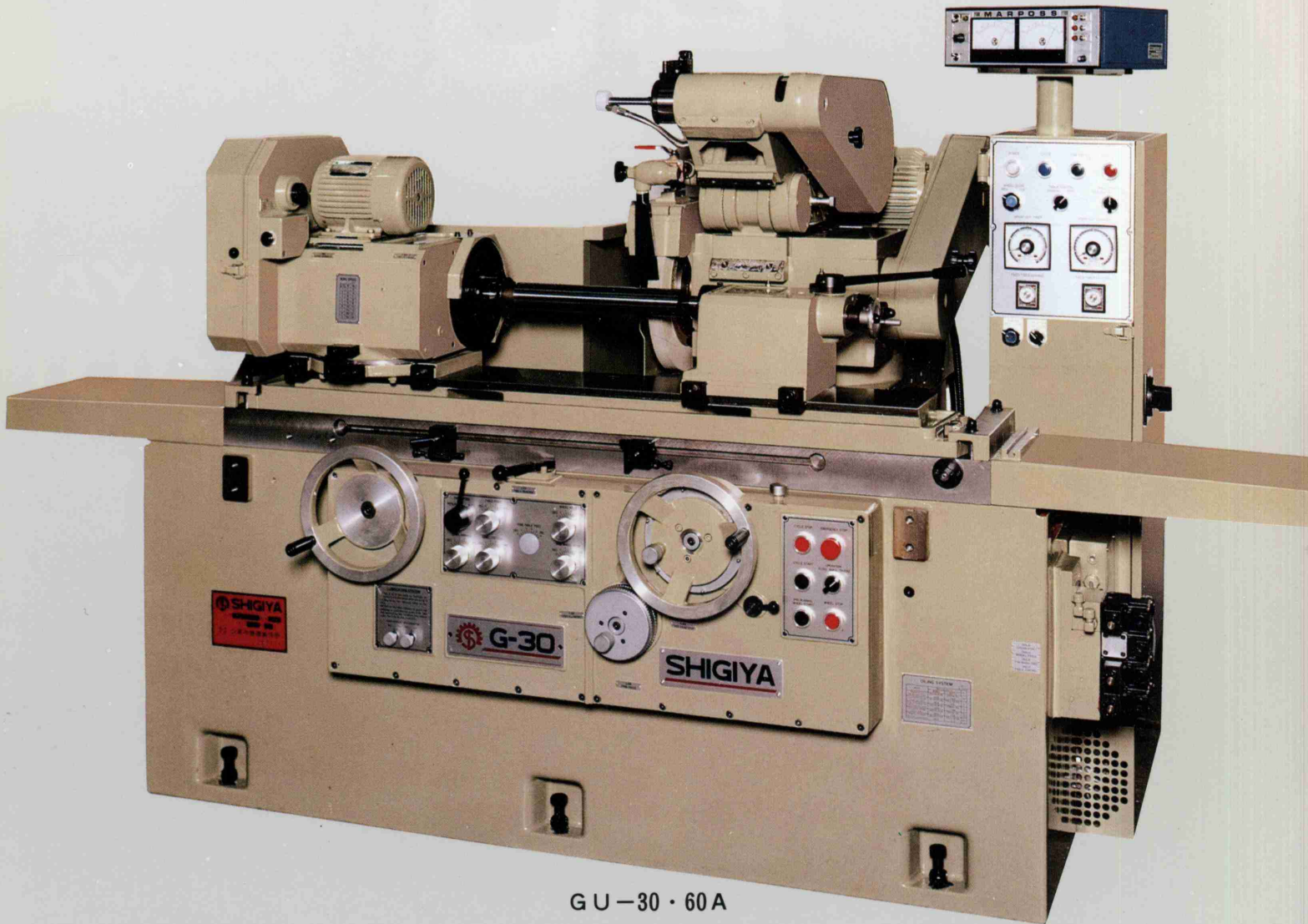
SHIGIYA MACHINERY WORKS LTD.

G-30(40)

CYLINDRICAL · UNIVERSAL
GRINDING MACHINES

NEWLY ENGINEERED, HIGH PRODUCTION SERIES, USING
ADVANCED TECHNOLOGYS GAINED FROM PRODUCING
OVER 6000 GRINDERS.

SHIGIYA



GU-30 · 60A

(Optional equipments included)

FEATURES

- The nonconcentric wedged oil film hydrodynamic bearings provide strength, durability and higher rotational accuracy.
- Separate fan cooled spindle bearing lubricating system maintains constant bearing temperature.
- Large diameter nitrogenized wheel spindle shaft provides high productivity, while maintaining precision grinding accuracy. (7.5Kw spindle motor is an available option)
- Highly rigid machine construction prevents changing accuracies due to thermal expansion.
- Convenient control location accommodates ease of operation based upon human engineering practices.
- Fine infeed accuracy, assured by the rigid wheelhead slide-way equipped with a hydrostatic lubrication system.
- High quality work head has rotational accuracy and is sealed to prevent coolant water damage.
- Wide range of models, excepting many available options, guarantee high production grinding capabilities.

MODELS

TYPE	F TYPE	H TYPE	A TYPE	M TYPE	E TYPE	N TYPE
MODEL	GP-30(40)·40F GU-30(40)·40F 60F	GP-30(40)·40H GU-30(40)·40H 60H 100H 150H 200H	GP-30(40)·40A GU-30(40)·40A 60A 100A 150A 200A	GP-30(40)·40M GU-30(40)·40M 60M 100M 150M 200M	GP-30(40)·40E GU-30(40)·40E 60E 100E 150E 200E	GP-30(40)·40N GU-30(40)·40N 60N 100N 150N 200N
Wheel Head Feed	Rapid Traverse	Hydraulic				
	Electric					
	Manual					
	Grinding Infeed	Hydraulic				
	Electric					
Table Traverse	Manual			Stepping Motor	Stepping Motor	DC Servo Motor
	Hydraulic					

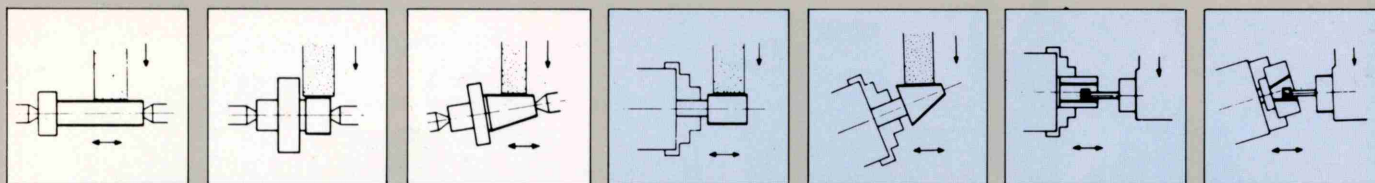
(example)

GP - 30 · 100 EGP : Plain Cylindrical
TypeSwing over Table
(300mm)Distance Between
Centers (1000mm)

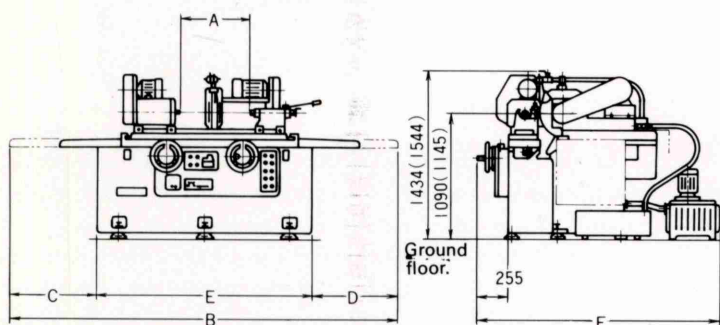
Digital Infeed Type

GU : Universal Cylindrical Type

Grinding Examples

(By Live Spindle Workhead
(G403, G404))By Internal Grinding Attachment
(G411, G412)

Machine Dimensions



G-30(40)	40	60	100	150	200
A	400(330)	600(530)	1000(930)	1600(1500)	2100(2000)
B	2624	3424	4352	6424	7340
C	562	762	826	1262	1220
D	562	762	826	1262	1220
E	1500	1900	2700	3900	4900
F	2100	2100	2100	2150	2150

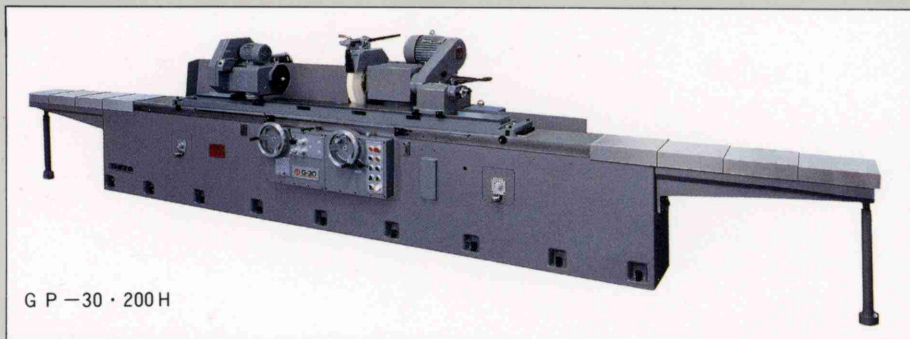
() G-40 Series

F-type

G U - 30 · 60 F

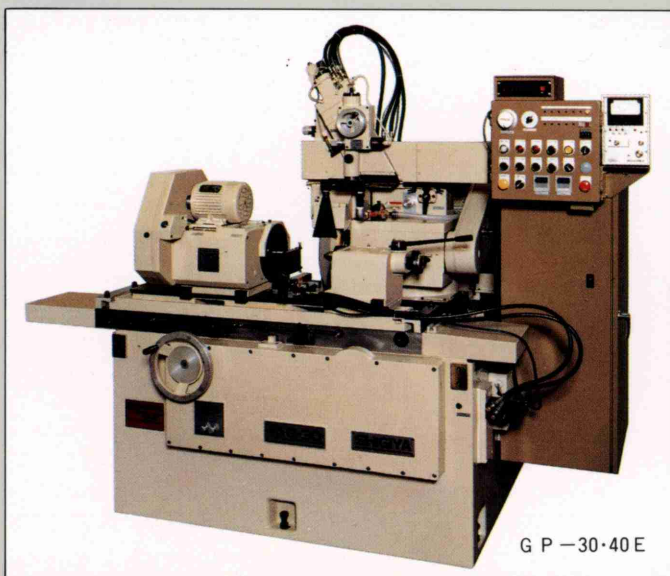
This low cost, all manual operation type machine is ideal for small quantities of high precision workpieces like those found in Jig tools and dies.

F-type machines achieve stable repeatability because they are not influenced by a hydraulic systems temperature variations.

H-type

G P - 30 · 200 H

Grinding small to medium quantities of workpieces, this H-type machine is equipped with a hydraulically rapid traverse function (40mm stroke) to aid when checking part size and mounting or removing workpieces. Over 1500mm center distance models are available with a wider V flat slide way to provide capacities for long and heavy workpieces.

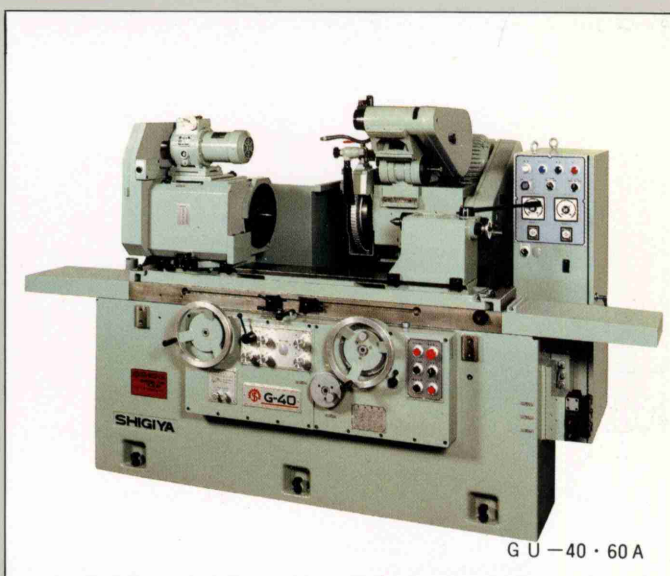
E-type

G P - 30 · 40 E

Stepper motor controls wheelhead grinding infeed eliminating fluctuating infeed rate caused by temperature changes using a hydraulic drive system.

This machine control digitally displays the input grinding parameters and is suited for large quantities of workpieces. The hydraulically driven table easily accepts auto traverse grinding work.

You can select an M-type, E-type or N-type depending upon your application.

G-40

G U - 40 · 60 A

G-40 series, high cost performance, has the same functions and construction as the G-30 series and is suitable for large diameter workpieces, especially flanged type shafts.

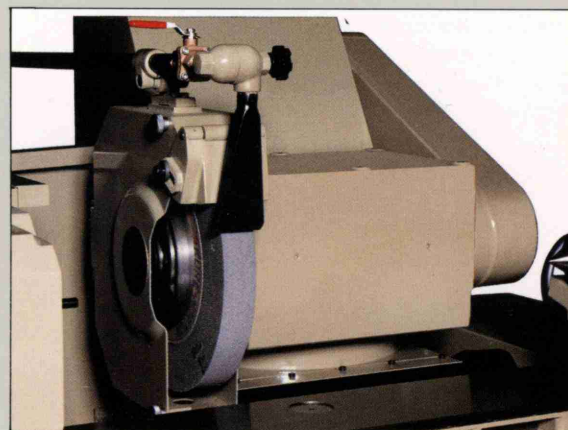
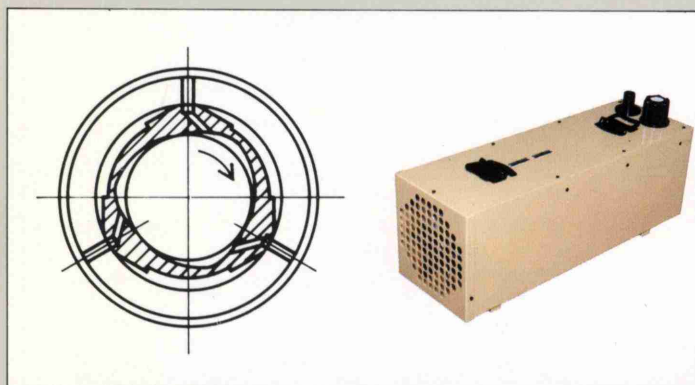
Double sliding wheelhead system can grind a maximum 410mm diameter workpiece using a standard ($\phi 405\text{mm}$) wheel.

WHEELHEAD

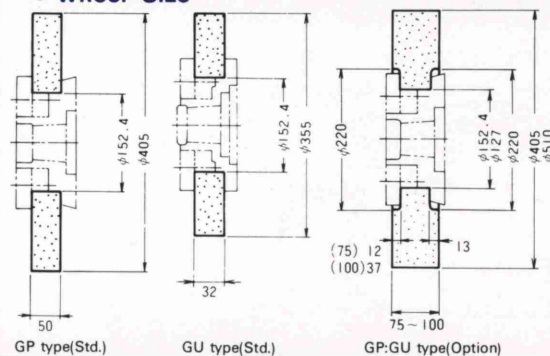
Hydrostatic lubricating slideway and high rigidity wheel-head feed mechanism assure fine infeed and accurate repeatability to a positive stop. The large diameter grinding wheel spindle of nitrided steel rotates in nonconcentric wedged oil film hydrodynamic bearings, while a hydrodynamic thrust bearing is located at the end of the spindle. This reliable spindle system ensures higher rotational accuracy.

The lubrication unit with cooling fan feeds oil to the spindle bearings through a micro-filter and pressure switch. The wheel spindle will not run unless the proper lubrication pressure and amount of oil is presented.

The GU model wheelhead can swivel 30° to each side to provide angular wheel grinding.



• Wheel Size

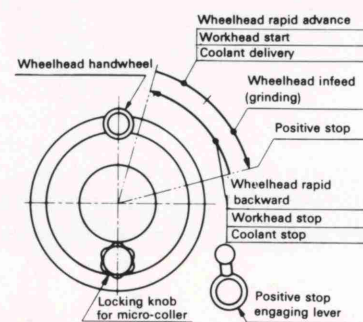


WHEELHEAD FEED MECHANISM (F, H type)

The handwheel for the wheelhead is linked with the start and stop of the workhead, coolant pump and rapid traverse of the wheelhead.

Releasing the interlock enables the operator to start and stop independently by means of push buttons.

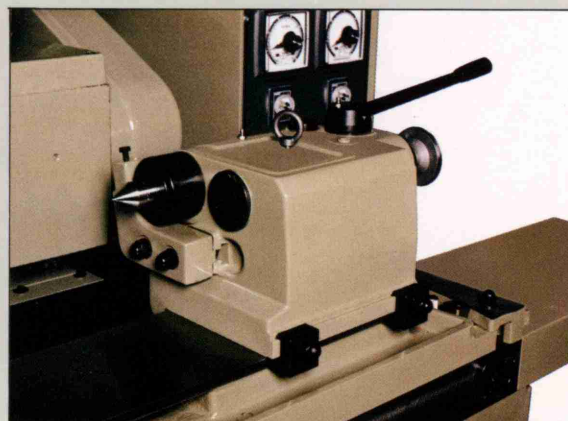
The fine infeed push button and positive stop permit simplified operation and high efficiency.



TAILSTOCK

The tailstock is designed with a rigid base and large diameter spindle for heavy duty grinding.

The spring pressure allowing axial expansion of the workpiece while grinding is adjustable with the knob.



WORKHEAD

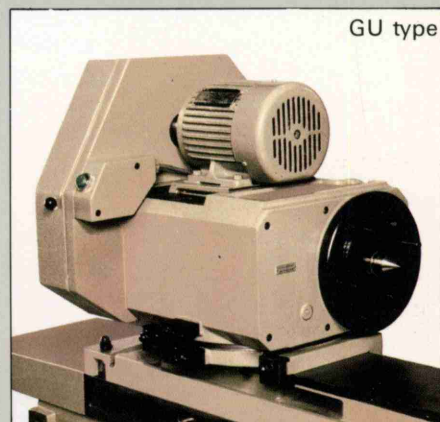
The totally enclosed workhead motor is precisely balanced and the V-belt system used provides 6 speed settings for the work spindle. A polyflex belt permits smooth and powerful drive.

The GU type workhead is designed for grinding with either a dead or live spindle center. This workhead is mounted on a swivel base that can be rapidly and accurately set at any angle up to 90° in the CCW direction; as well as, up to 30° in the CW direction from the fixed stop at the zero (0°) position.

Standard center is MT No. 4 and MT. No. 5 center is available as an option (G-427) for G-40 type.



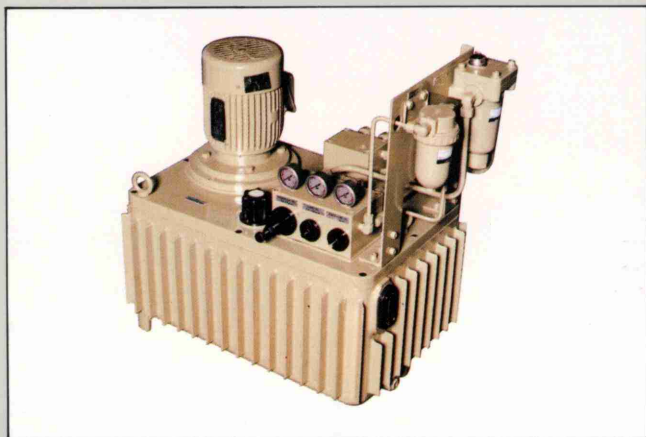
GP type



GU type

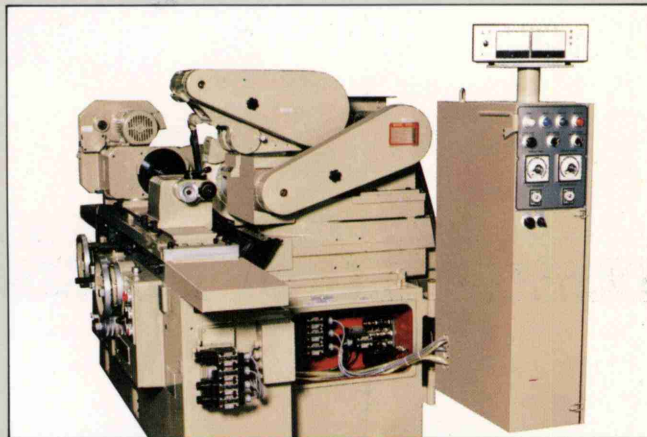
HYDRAULIC SYSTEM

To keep a constant oil temperature, the tank is separate from the machine and is made of a high quality aluminum casting with cooling fins cast around the body.

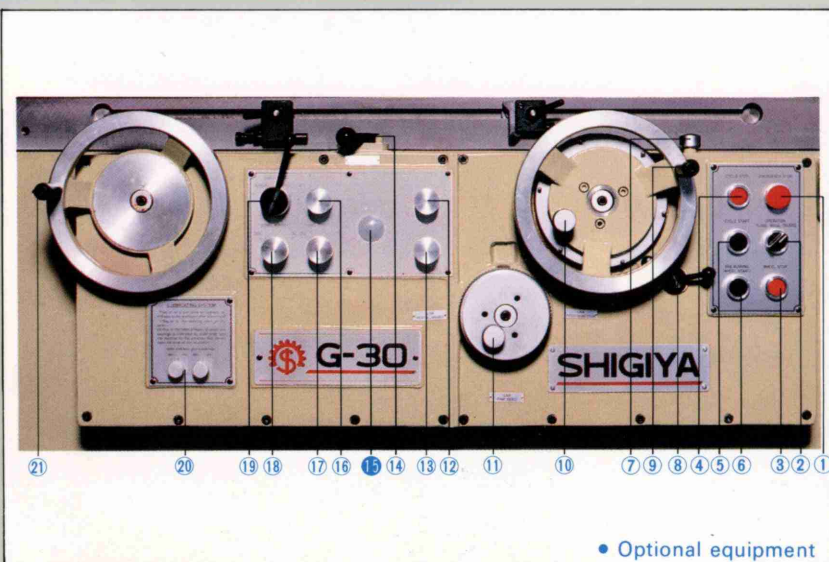


ELECTRIC CONTROL

The electrical control box can swivel to achieve easy maintenance; such as, changing belts, etc.



MAIN CONTROLS (A Type)



• Optional equipment

- ① Emergency switch
- ② Auto. Cycle/Manual selector
- ③ Wheel stop
- ④ Cycle stop
- ⑤ Cycle start
- ⑥ Wheel start
- ⑦ Wheel infeed jog
- ⑧ 0 point stopper
- ⑨ Wheel feed handwheel
- ⑩ Micrometer ring stopper
- ⑪ Wheel auto. infeed amount control
- ⑫ Wheel auto. infeed speed control (coarse)
- ⑬ Wheel auto. infeed speed control (fine)
- ⑭ Table reversing lever
- ⑮ Table fine speed control
- ⑯ Table traverse speed control
- ⑰ Table reverse dwell time control (tailstock side)
- ⑱ Table reverse dwell time control (workhead side)
- ⑲ Table traverse Auto./Manual selector
- ⑳ Lubricant fluid control
- ㉑ Table handwheel

AUTOCYCLE TYPE

• A-type

A dual rate (hydraulic) infeed system is supplied as standard and ensures the positive stop of the wheelhead during plunge or traverse grinding.

• M-type

The stepper motor driven wheelhead provides an unvaried steady rate of auto infeed inclusive of the longest production runs whether auto plunge or auto traverse grinding is being performed.

• E-type

Grinding parameters are digitally entered into the machines NC, which controls the auto infeed of the wheelhead by means of a stepper motor with a minimum $\phi 0.002\text{mm/step}$ infeed, whether auto-plunge or auto-traverse grinding.

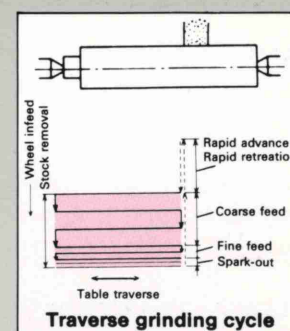
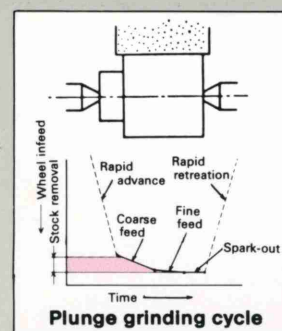
• N-type

The entire wheelhead infeed traverse movement is driven by a ball screw directly connected to a DC-Servo motor which is controlled by a single axis CNC device.

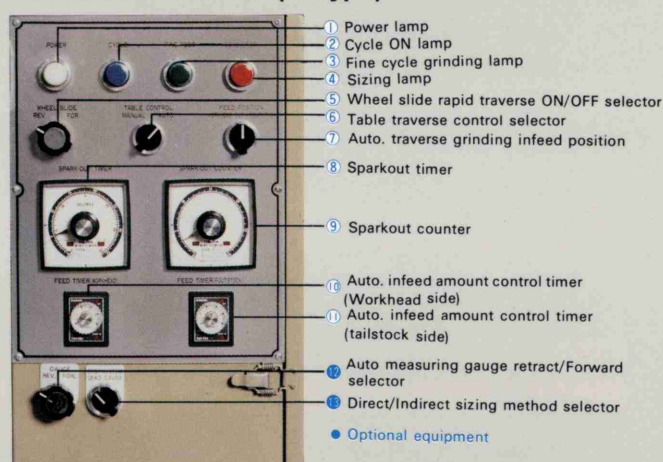
A minimum $\phi 0.001\text{mm/step}$ infeed is realized with this system because of the absence of a hydraulic operational system.

This type machine control is exclusively used for precision plunge grinding.

• Cycle sequence



Electronic control (A Type)



OVERHEAD TYPE WHEEL DRESSERS

When an overhead wheel dresser is installed it will automatically compensate for the preset amount of abrasive removed from the grinding wheel face during a dress cycle, by automatically advancing the wheelhead the corresponding preset amount.

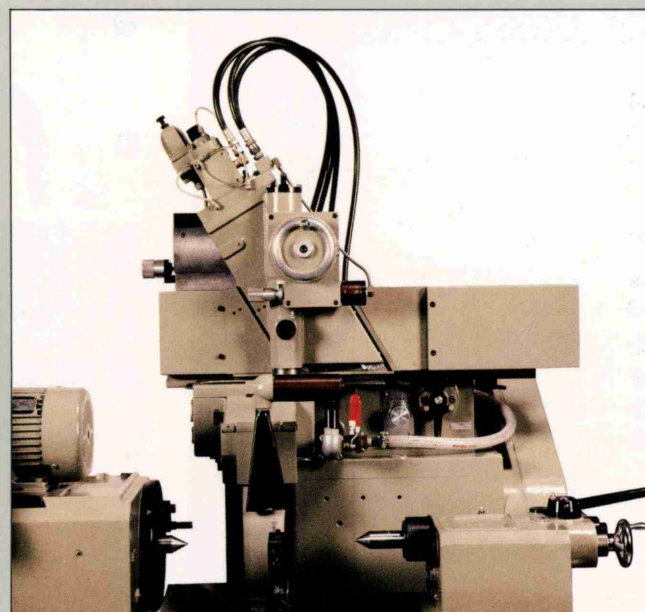
Pushing the dress start pushbutton moves the wheelhead the preset dressing amount while infeeding the diamond tool that same amount. The diamond is then hydraulically driven to the left while dressing and is lifted up at the end of its travel. The dresser slide is then rapidly returned to its start position.

This dress cycle can be repeated as many times as needed depending upon grinding conditions.

(Unit : mm)

Type	Straight	90° formed dresser	60° formed dresser
Wheel OD x width		405 x 100	
Traverse interval		134	
Total amount of infeed		55 (radius)	
Max. forming step		20 (radius)	
Automatic infeed		$\phi 0.01 \sim 0.04$	
Forming angle	Straight	90°	60°
Traverse stroke counter	9999 times	9999 times	9999 times
Wheel dressing counter	9999 times	9999 times	9999 times
Shape of wheel			

- G413 Overhead type straight wheel dresser
- G414 Overhead type 60° formed wheel dresser
- G415 Overhead type 90° formed wheel dresser
- G416 Template and mounting base
- G417 Diamond tool formed (app. 1.5ct)



INTERNAL GRINDING ATTACHMENT

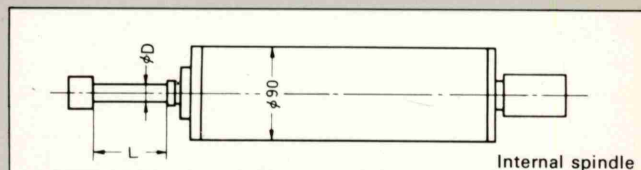
G411 Internal grinding attachment (For F,H type)

G412 Internal grinding attachment (For A,M,E,N type)

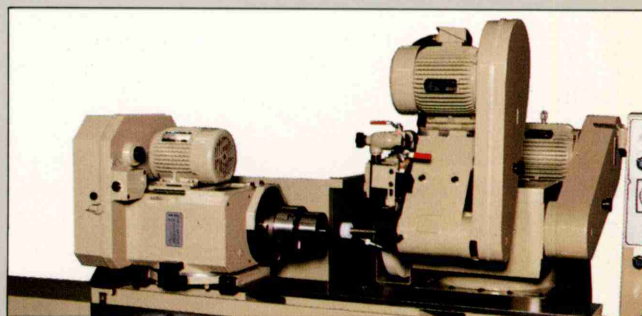
A swing down type internal grinding attachment can be mounted on the top of the wheelhead. The customer can choose from the three types of internal spindles listed below which will then be supplied with 3 kinds of quills depending upon the choice of spindle.

STANDARD ACCESSORIES

Internal grinding spindle	1 set
Quills (3 per set)	1 set
Diamond tool holder (except, diamond tool)	1 set
Coolant piping and splash guard	1 set



Internal spindle



(Unit: mm)

Type of internal spindle	Capacity	Speed	Motor out put	Quill		Grinding capacity ID X max. depth	Dimensions of wheel OD X width X ID
				Taper (MT)	Length. (L)		
S A - 901	φ 10 ~ 50	25,000 rpm	1.5KW	No. 1	φ 6 × 20	φ 10 ~ 24 × 25	φ 13 × 12 × φ 4
					8 30	13 ~ 32 35	18 15 4
					12 40	20 ~ 50 50	25 20 6
S A - 902 (standard)	φ 15 ~ 80	18,000 rpm	1.5KW	No. 2	φ 8 × 30	φ 15 ~ 32 × 35	φ 18 × 15 × φ 4
					12 40	20 ~ 50 50	25 20 6
					18 65	35 ~ 80 75	34 25 10
S A - 903	φ 25 ~ 80	10,000 rpm	1.5KW	No. 3	φ 18 × 65	φ 25 ~ 40 × 75	φ 34 × 25 × φ 10
					22 80	30 ~ 60 90	45 25 10
					30 110	40 ~ 80 120	50 25 10

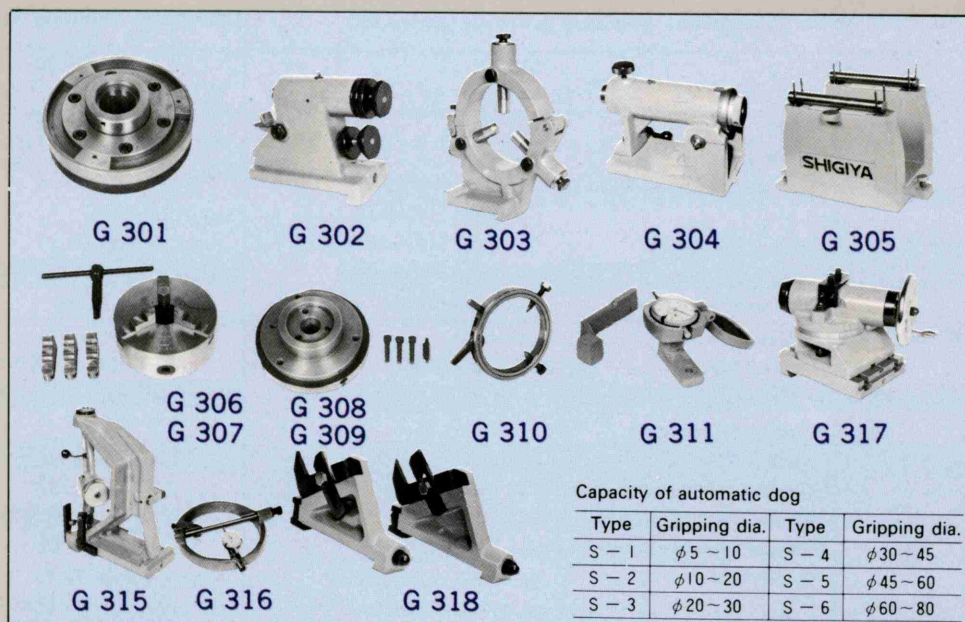
Standard accessories

1 Wheel flange	1 set
2 Wheel balancing arbor	1 set
3 Wheel flange removing nut	1 pc
4 Tailstock mounted diamond tool holder (except diamond tool)	1 set
5 Tungsten carbide center	2 pcs
6 Machine lifting tool	3 set
7 Work head center removing rod	1 set
8 Plug for machine lifting tool bolt hole	6 set
9 Jack bolt	As req'd
10 Leveling plate for foundation	As req'd
11 Oil pump	1 pc
12 Touch-up paint	1 pc
13 Spanners and wrenches	1 set
14 Tool box	1 pc
15 Coolant splash guard	1 set



Optional accessories

- G301 Spare wheel flange
 G302 Double shoe steady rest ($\phi 10$ to 130)
 G303 Triple shoe steady rest ($\phi 20$ to 130)
 G304 Micro-metric feed diamond holder
 G305 Wheel balancing stand
 G306 Scroll chuck 5 (incl. G308)
 G307 Scroll chuck 6 (incl. G309)
 G308 Chuck plate 5
 G309 Chuck plate 6
 G310 Automatic dog set (S1~S6)
 G311 Table swiveling angle measuring device
 G312 Diamond tool (app. 1 ct.)
 G313 Wheel spindle lubricant, 18 liters
 G314 Hydraulic fluid, 60 liters
 G315 Radius dresser
 G316 Radius measuring device
 G317 Angle dresser
 G318 Work rest (two piece set)

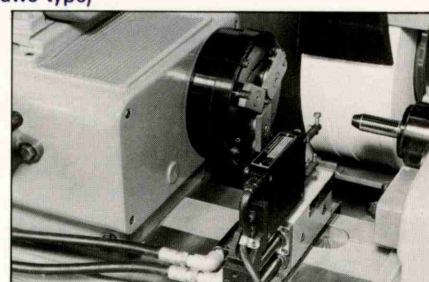
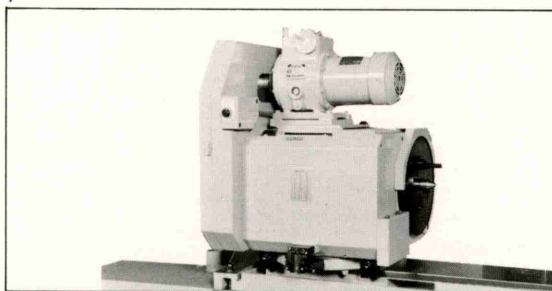
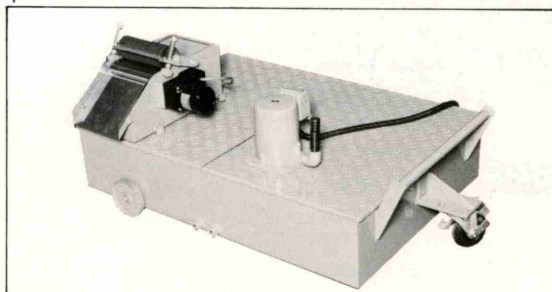


Capacity of automatic dog

Type	Gripping dia.	Type	Gripping dia.
S - 1	$\phi 5 \sim 10$	S - 4	$\phi 30 \sim 45$
S - 2	$\phi 10 \sim 20$	S - 5	$\phi 45 \sim 60$
S - 3	$\phi 20 \sim 30$	S - 6	$\phi 60 \sim 80$

Optional equipments

- G401 Magnetic coolant separator 60 lits./min (16 US Gallons/ min) ● (G401)
 G402 Infinitely variable speed workhead (50Hz 23~300 rpm, 60Hz 28~360 rpm)
 G403 Live spindle workhead with swivel base (for GP)
 G404 Live spindle workhead with swivel base and infinitely variable speed. (for GP)
 G405 Low speed workhead (for G-30)
 G406 Tailstock with hydraulic retraction (excl. F type)
 G407 Inprocess gauge jump on type (measuring range 8 to 92mm Marposs) (for A.M.E.N type)
 G408 Dual rate table traverse system (for A.M.E type)
 G409 Table microfeeder (0.005mm/Div.) (excl. F type)
 G410 Hydraulic fluid cooling device (excl. F, N type)
 G411 Internal grinding attachment (F, H type)
 G412 Internal grinding attachment (for A, M, E, N type)
 G413 Overhead type straight wheel dresser (excl. F, H type)
 G414 Overhead type 60° formed wheel dresser (excl. F, H type)
 G415 Overhead type 90° formed wheel dresser (excl. F, H type)
 G416 Template and mounting base (excl. F, H type)
 G417 Forming diamond tool (app. 1.5ct.) (excl. F, H type)
 G418 Specified color paint
 G419 45M/S or 8500 ft/min Wheel peripheral speed system
 G420 Jib crane
 G421 Auto. workpiece driver ($\phi 10 \sim 60$ mm, 0.4~2.3") ● (G421, Cam lock jaws type)
 G422 Grinding wheel size ($\phi 405$ mm, 16") specified (for GU)
 G423 Grinding wheel size ($\phi 510$ mm, 20") specified
 G424 Grinding wheel width (100mm) specified
 G425 Wheel spindle motor (5.5KW) specified (for GU)
 G426 Wheel spindle motor (7.5KW) specified
 G427 Workspindle center (MT.No.5) specified (For G-40)
 G428 Lighting equipment



G-30 Series Specifications

□ optional spec. mm (APP:inch)

Model			Cylindrical Grinding Machine	Universal Grinding Machine
Type			G P - 30 40 60 100 150 200	G U - 30 40 60 100 150 200
Capacity	Swing over table		300 (11.8)	300 (11.8)
	Center distance		400 600 1000 1600 2100 (16) (24) (40) (63) (83)	400 600 1000 1600 2100 (16) (24) (40) (63) (83)
	Max. grinding dia.	$\phi 355$ (14) wheel		270 (10.6)
		$\phi 405$ (16) wheel	220 (8.7)	220 (8.7)
		$\phi 510$ (20) wheel	115 (4.5)	115 (4.5)
	Max. workpiece weight	center work	130 kg	130 kg
Wheel Slide	Swivel degree		nonswivel	swivel $\pm 30^\circ$
	Grinding wheel	dia \times hole	405 \times 152.4 (16 \times 6)	355 \times 152.4 (14 \times 6)
	(G422, G423)		510 \times 152.4 (20 \times 6)	405 \times 152.4 (16 \times 6)
	Grinding wheel width		25 ~ 75 (1 ~ 3)	25 ~ 50 (1 ~ 2)
	(G424)		100 (4)	100 (4)
	Grinding wheel r.p.m.	(std.)	1563 · 1675	1675 · 2013
	Manual wheel slide travel		175(6.9) [F type 215(8.5)]	175(6.9) [F type 215(8.5)]
	Rapid wheel slide travel	(Except F type)	40 (1.6)	40 (1.6)
	Handle feed	One revolution	1.0 (0.4)	1.0 (0.4)
		One division	0.0025 (0.0001)	0.0025 (0.0001)
Workhead	Spindle type & swivel degree		Dead Spindle; Nonswivel	Live; Dead Spindle Swivel 120°
	Spindle r.p.m.	7 speed changes by belt	50 Hz 24 ~ 302 60 Hz 29 ~ 363	50 Hz 24 ~ 302 60 Hz 29 ~ 363
	(G405)	9 speed changes by belt	50 Hz 17 ~ 302 60 Hz 20 ~ 363	50 Hz 17 ~ 302 60 Hz 20 ~ 363
	Taper of center	M T.	No. 4	No. 4
Tailstock	Spindle stroke		30 (1.2)	30 (1.2)
	Taper of center	M T.	No. 4	No. 4
TABLE	Swivel degree	C.C.W.	11 9 7 5 4	11 9 7 5 4
		C.W.	1 1 1 1 1	1 1 1 1 1
	Handle feed	One revolution	15(1.6) [F type 10 · 25(0.4 · 1.0)]	15(1.6) [F type 10 · 25(0.4 · 1.0)]
	Automatic traverse speed	(Except F type) mm/min	50 ~ 4000(2 ~ 160) 50 ~ 3000(2 ~ 118)	50 ~ 4000(2 ~ 160) 50 ~ 3000(2 ~ 118)
Motor	Wheel spindle	KW	5.5 4 P	3.7 4 P
	(G 425)	KW		5.5 4 P
	(G 426)	KW	7.5 4 P	7.5 4 P
	Work spindle	KW	0.3 8 P	0.3 8 P
	Hydraulic pump	(Except F type) KW	0.75 4 P	0.75 4 P
	Slideway lubricant	(F type only) KW	0.025 4 P	0.025 4 P
	Wheel spindle lubricant pump	KW	0.2 4 P	0.2 4 P
	Coolant pump	KW	0.18 2 P	0.18 2 P
Tank Capacity	Wheel spindle lubricant	ℓ (gallons)	12	12
	Hydraulic fluid	(Except F type) ℓ (gallons)	54	54
	Slide way lubricant	(F type only) ℓ (gallons)	4	4
	Coolant fluid	ℓ (gallons)	120	120
Center Height from Ground Floor			1090 (429)	1090 (429)
Net weight			kg 2500 2700 3300 4300 5100 lbs (5500) (5940) (7260) (9460) (11220)	kg 2500 2700 3300 4300 5100 lbs (5500) (5940) (7260) (9460) (11220)

Wheel Slide Automatic Specifications

	Max. Auto Infeed Travel	Auto Cycle Plunge Grinding		Auto Cycle Traverse Grinding	
		Infeed Speed mm(inch)/min	Sparkout Adjustment	Infeed per 1 table traverse	Sparkout Adjustment
A Type	0.5(0.02) Radius	0.022 ~ 2.0 (0.0008 ~ 0.08)	Max. 30 sec	0.0010 ~ 0.10 (0.00004 ~ 0.004)	Max. 30 Table traverse
M Type	0.5(0.02) Radius	0.006 ~ 18.0 (0.0002 ~ 0.70)	Max. 30 sec	0.0005 ~ 0.05 (0.00002 ~ 0.002)	Max. 30 Table traverse
E Type	0.5(0.02) Radius	0.006 ~ 18.0 (0.0002 ~ 0.70)	Max. 99 sec	0.0005 ~ 0.05 (0.00002 ~ 0.002)	Max. 99 Table traverse
N Type	0.5(0.02) Radius	0.028 ~ 18.0 (0.0010 ~ 0.70)	Max. 99 sec		

Specifications are subject to change without notice.

G-40 Series Specifications

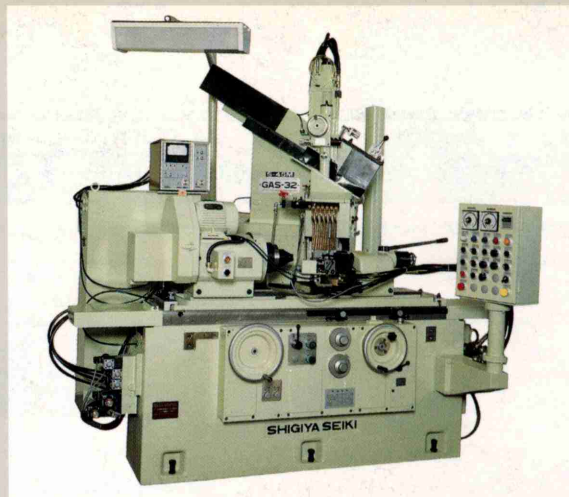
□ optional spec. mm (APP:inch)

Model			Cylindrical Grinding Machine					Universal Grinding Machine					
Type			G P - 40					G U - 40					
			40	60	100	150	200	40	60	100	150	200	
Capacity	Swing over table		410 (16)					410 (16)					
	Center distance		330 (13)	530 (21)	930 (36)	1500 (59)	2000 (80)	330 (13)	530 (21)	930 (36)	1500 (59)	2000 (80)	
		M T . No. 5	300 (12)	500 (20)	900 (36)	1500 (59)	2000 (80)	300 (12)	500 (20)	900 (36)	1500 (59)	2000 (80)	
	Max. grinding dia.	φ355 (14) wheel	410 (16)					410 (16)					
		φ405 (16) wheel	320 (13)					320 (13)					
		φ510 (20) wheel											
	Max. workpiece weight	center work	150 kg					150 kg					
Wheel Slide	Swivel degree		nonswivel					swivel ± 30°					
	Grinding wheel	dia×hole	405×152.4 (16×6)					355×152.4 (14×6)					
	(G422, G423)		510×152.4 (20×6)					405×152.4 (16×6)					
	Grinding wheel width		25~75 (1~3)					25~50 (1~2)					
	(G424)		100 (4)					100 (4)					
	Grinding wheel r.p.m.	(std.)	1563 · 1675					1675 · 2013					
	Wheelhead (top slide) adjustment		100 (4)					100 (4)					
	Manual wheel slide travel		175(6.9) [F type 215(8.5)]					175(6.9) [F type 215(8.5)]					
	Rapid wheel slide travel	(Except F type)	40 (1.6)					40 (1.6)					
	Handle feed	One revolution	1.0 (0.4)					1.0 (0.4)					
		One division	0.0025 (0.0001)					0.0025 (0.0001)					
Workhead	Spindle type & swivel degree		Dead Spindle;Nonswivel					Live;Dead Spindle Swivel 120°					
	Spindle r.p.m.	9 speed changes by belt	50 Hz 15~300 60 Hz 18~360					50 Hz 15~300 60 Hz 18~360					
	Taper of center	M T .	No. 4					No. 4					
	(G427)	M T .	No. 5					No. 5					
Tailstock	Spindle stroke		30 (1.2)					30 (1.2)					
	Taper of center	M T .	No. 4					No. 4					
	(G 427)	M T .	No. 5					No. 5					
TABLE	Swivel degree	C.C.W.	11	9	7	5	4	11	9	7	5	4	
		C.W.	1	1	1	1	1	1	1	1	1	1	
	Handle feed	One revolution	15(1.6) [F type 10.25(0.4·1.0)]					15(1.6) [F type 10.25(0.4·1.0)]					
	Automatic feed speed	(Except F type) mm/min	50~4000(2~160) 50~3000(2~118)					50~4000(2~160) 50~3000(2~118)					
Motor	Wheel spindle		5.5 4 P					3.7 4 P					
	(G 425)	KW						5.5 4 P					
	(G 426)	KW	7.5 4 P					7.5 4 P					
	Work spindle		0.3 8 P					0.3 8 P					
	Hydraulic pump	(Except F type)	0.75 4 P					0.75 4 P					
	Slide way lubricant	(F type only)	0.025 4 P					0.025 4 P					
	Wheel spindle lubricant pump		0.2 4 P					0.2 4 P					
	Coolant pump		0.18 2 P					0.18 2 P					
Tank Capacity	Wheel spindle lubricant	ℓ (gallons)	12 (3.2)					12 (3.2)					
	Hydraulic fluid	(Except F type) ℓ (gallons)	54 (14.3)					54 (14.3)					
	Slide way lubricant	(F type only) ℓ (gallons)	4 (1)					4 (1)					
	Coolant fluid	ℓ (gallons)	120 (32)					120 (32)					
Center Hight from Ground Floor			1145 (45)					1145 (45)					
Net weight			kg	2600	2800	3400	4400	5200	2600	2800	3400	4400	5200
			lbs	(5700)	(6200)	(7500)	(9700)	(11400)	(5700)	(6200)	(7500)	(9700)	(11400)

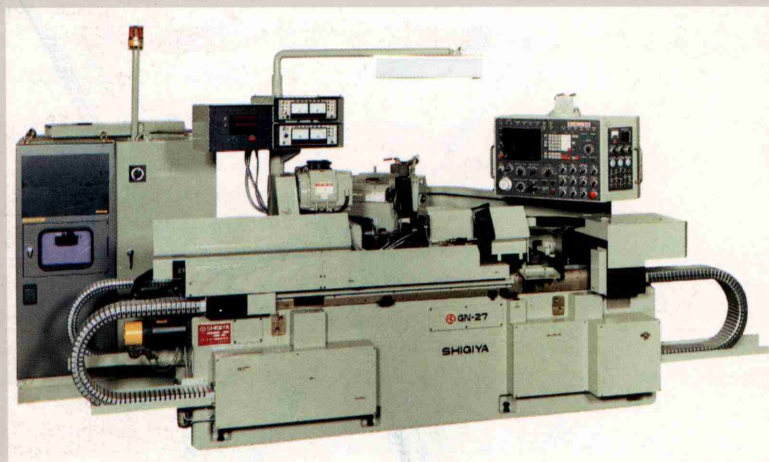
Automatic Infeed Specifications

	Max. Auto Infeed Travel	Auto Cycle Plunge Grinding		Auto Cycle Traverse Grinding	
		Infeed Speed mm (inch)/min	Sparkout Adjustment	Infeed per 1 table traverse	Sparkout Adjustment
A Type	0.5(0.02) Radius	0.022 ~ 2.0 (0.0008 ~ 0.08)	Max. 30 sec	0.001 ~ 0.10 (0.00004 ~ 0.004)	Max. 30 Table traverse
M Type	0.5(0.02) Radius	0.006 ~ 18.0 (0.0002 ~ 0.70)	Max. 30 sec	0.0005 ~ 0.05 (0.00002 ~ 0.002)	Max. 30 Table traverse
E Type	0.5(0.02) Radius	0.006 ~ 18.0 (0.0002 ~ 0.70)	Max. 99 sec	0.0005 ~ 0.05 (0.00002 ~ 0.002)	Max. 99 Table traverse
N Type	0.5(0.02) Radius	0.028 ~ 18.0 (0.0010 ~ 0.70)	Max. 99 sec		

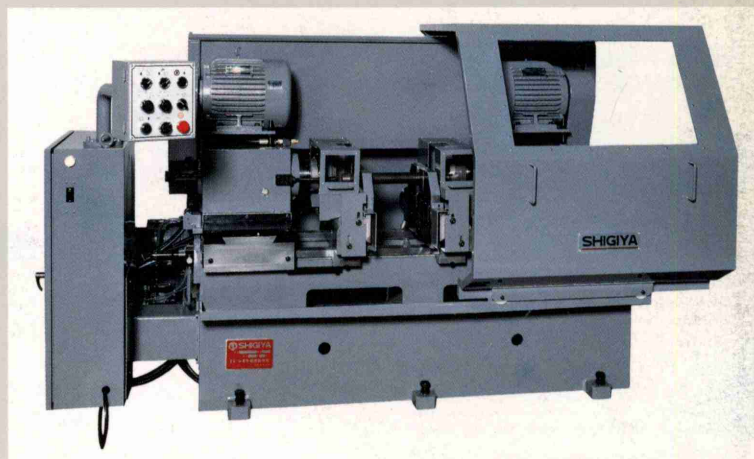
Specifications are subject to change without notice. 11



Angular slide Cylindrical Grinder GAS-32-50



CNC. Cylindrical Grinder GN-27-60



Centering Machine CM-8-60



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