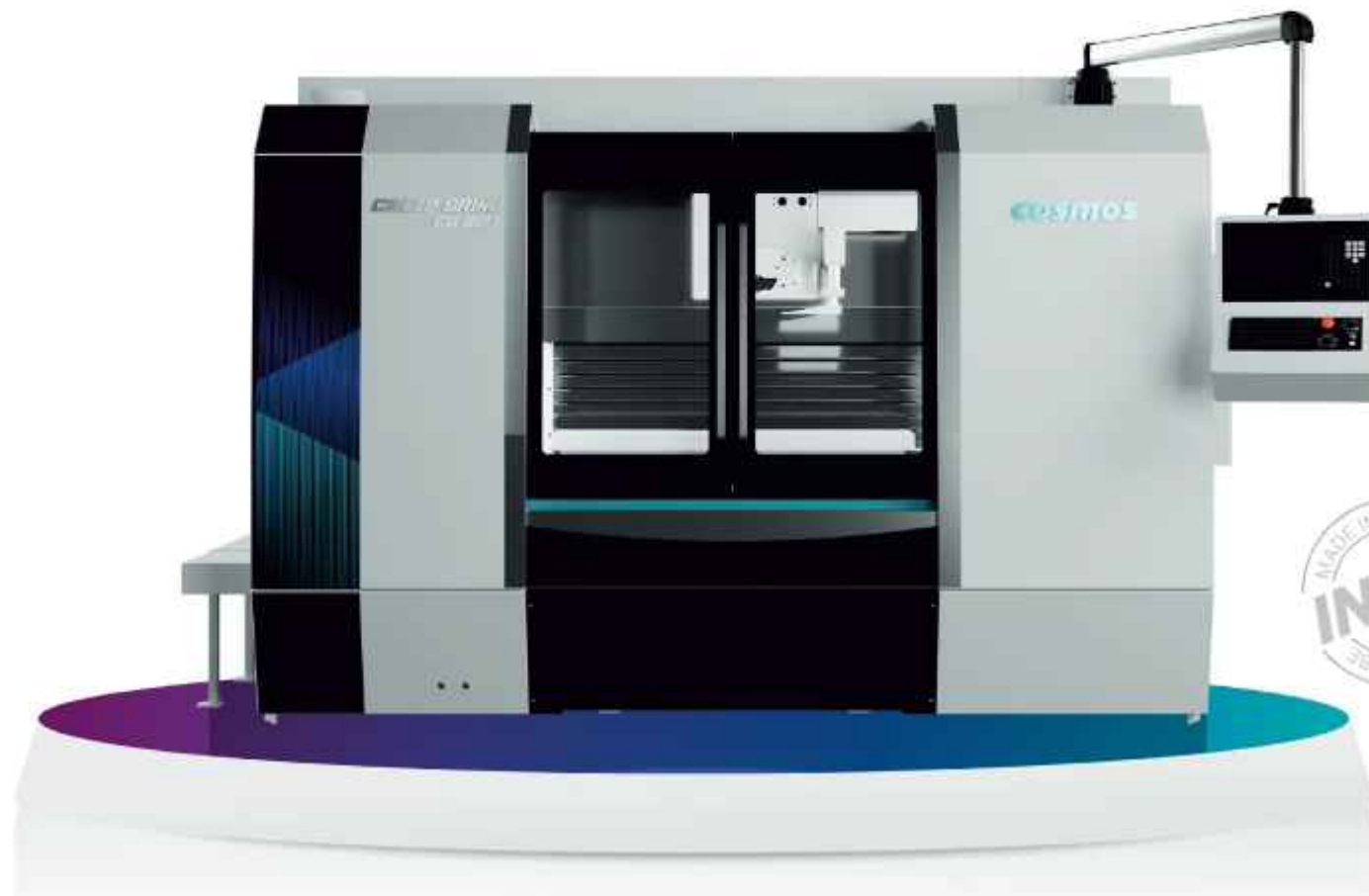


CREEPGRIND CG-800

High Rigidity Creep Feed Profile Grinding Machines

SURFGRIND Series

Horizontal Spindle Surface Grinders



SG-7040 | SG-8040 | SG-1050 | SG-1260 | SG-1570 | SG-2070 | RSG-800 | RSG-1000 | CG-800

CREEPGRIND

CG-800

Creep Feed Grinding is a precision grinding method where the grinding wheel carves a full-depth contour into the workpiece in a single, slow pass. This process is ideal for creating intricate shapes, profiles, and features that are challenging to achieve through conventional grinding methods.

- *High Static and Dynamic Stability of the Machine Tool*
- *Infinitely Variable Spindle Speed*
- *Consistent Table Speed, especially in the Lower Speed Range*
- *High-pressure Cooling and Cleaning System*
- *Integrated Dressing Devices*
- *CNC Programmable*
- *Automatic Wheel Balancing*
- *High Power Spindle Motor*
- *Automatic Compensation for Wheel Dressing*



**HIGH MATERIAL
REMOVAL RATE**

**SHORT
CYCLETIME**

**REDUCED
MACHINE WEAR**

**LOW HEAT AT
WORKPIECE**

**ELIMINATE
MACHINING**

**LONGER
WHEEL LIFE**

Features

High Accuracy Machining due to Rigid Structure

Innovative Machine Design

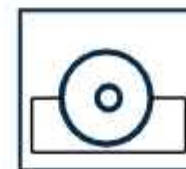
- *Dynamic Rigidity:* High levels of dynamic rigidity minimise vibrations for precision and performance.
- *Advanced Control Systems:* Available with Siemens or Mitsubishi CNC controls for precision contour dressing.
- *All linear movements during grinding are performed by the grinding head.*
- *Vertical movements are executed by the table for stability and accuracy.*
- *Wheel rotation is close to the ballscrew and linear guideway for enhanced cutting performance.*
- *Compact Design:* Suitable for cellular manufacturing and tight production spaces.

Linear Guideways

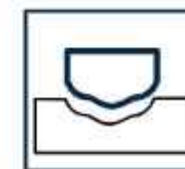
All axes are equipped with precision linear guideways with preloaded blocks. Ensure smooth synchronised multiaccess motion while grinding.

Ball Screw with Servos

Column drive is via hardened ball screw. Gives fine control over the grinding parameters. Suitable for multi axis interpolation grinding.



Slot



Form

Applications

Aerospace:

Precision profiles for turbine blades and vanes.

Medical Devices:

High-quality surgical tools and implants.

Automotive:

High-accuracy steering racks and other components.

Precision Engineering:

Complex profiles and slots in diverse industries.

Our Turnkey Solutions



HIGH MRRs THAT MATCH MILLING MACHINES



SPLINE GRINDING APPLICATION

MATERIAL
FORGED STEEL 60HRC

PLUNGE
GRINDING METHOD

8mm
WIDTH OF CUT

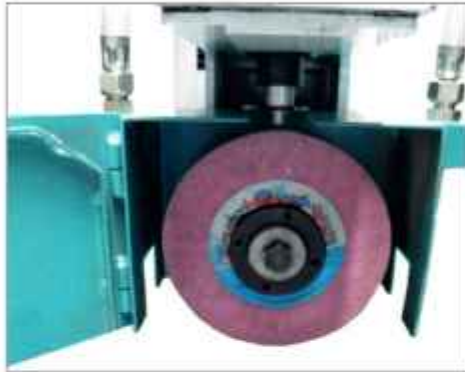
5mm
DEPTH OF CUT

2
NO. OF PASS

0.4RA
SURFACE FINISH

H7
ACCURACY

Dressing Options



Head Mounted Dresser

Used for intermittent or continuous dressing



Crush Roll Dressing Unit

Suitable for crush dressing of vitrified CBN wheel



High Precision Diamond Disk

Used for intermittent or continuous dressing

100 % Laser Calibration of all machines

*We use State-of-the-art
equipment for used by leading
world manufacturers.*

*We assure you
repeatability with accuracy.*



Machine Specifications

Features	Description	Unit	CG-800	
Capacity	Grinding Area	mm	800 x 350	
	Longitudinal Travel	mm	800	
	Cross Travel	mm	350	
	Vertical Travel	mm	300	
	Max. Load on Table	kg	300	
Spindle	Spindle Motor	kW	22	
	Spindle Speed	rpm	1000-3000	
	Grinding Wheel Size Max. (OD x Width x ID)	mm	400 x 100 x 127	
Feed & Traverse	Rapid Traverse	X Axis	mm/m	10,000
		Y/Z Axis	mm/m	5,000
Drive	X/Y/Z Axis		AC Servo Motor & Ball Screw	
Others	Total Power Consumption	kW	42	
	Input Power Source		415V, 3 Phase, 50 Hertz	
	Floor Space	mm	4260 x 5900	
	Machine Height	mm	2800	
	Machine Weight	kg	8000	

Note: Specifications and features are subject to change without prior notice. Please refer to the offer document, as it has precedence.

Optional Features

- Auto Wheel Balancer
- Dressing Crusher Unit with Diamond roll / disc
- Mist Collector
- Compact Band Filtration System
- Auto Magnetic Separator
- Coolant Chiller
- Precision Wheel Balancing Stand

Standard Features

- CNC Control System: Mitsubishi M-80 Advanced 3-axes Programmable
- Auto Grinding Cycle through CNC Control
- Capable of Profile & Creep Feed Grinding
- Capable of Mounting CBN Wheel
- MPG made of operation for precise controls of 0.001 mm for all axes
- AC Servo drives with high precision ground ball screw for X, Y- & Z axes for accurate and precise controls
- Axial angular contact ball bearing for all axes ball screw
- Very rigid spindle with variable speed through servo motor
- LM Roller guide ways for all axes movement
- Machine elements made of high quality cast iron
- Centralised automatic lubrication system controlled by pressure switch and indicating
- Compact Band Filtration Unit with Auto Magnetic Separator
- Inbuilt Coolant System
- Coolant Chiller Capacity
- Full Guarding System
- Panel AC for Electrical Cabinet
- Coolant nozzle with compensation for wheel wear and auto positioning on right hand side
- Precision Static Wheel Balancing Stand for Wheel up to D 400mm
- Grinding Wheel Dia 400
- Grinding Wheel Flange for the above
- Balancing Arbor
- Grinding Wheel Clamping/Extraction Bolt
- Anti Vibration Pads
- Machine Geometrical Test Chart
- Operating Instruction Manual

SURFGRIND

Reciprocating Type



- User-friendly NC Control
- Automatic Grinding Cycle
- Surface and Plunge Grinding
- Diamond Dresser Mounted left on table for Automatic Dressing
- Logical Program Run via HMI Touch Screen
- Manual Grinding with Electronic Handwheel Infeed Possible
- Precision Ball Screw in Y + Z Axis
- Electro-magnetic Chuck with Variable Force Control
- Coolant System with Paper-belt Filter
- External Maintenance-friendly Hydraulics

Column Moving Design

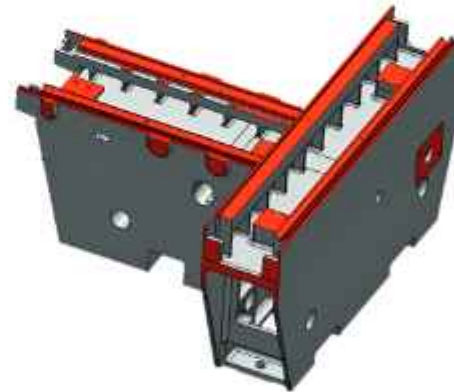
Column moving design with independent movement of all three axes. Making it long last for years and years to come.

All axis move independently resulting in perfect perpendicularity in between the three axis. This ensures better flatness and parallelism.



V and Flat Guideways

Hand scraping creates contact points and oil pockets (high and low spots) between mating surfaces, ensuring a perfect match between components. This process improves surface conformity and promotes even oil distribution for smoother motion.



Turcite B coating, on the other hand, enables the mating surfaces to glide smoothly over each other without sticking, reducing friction. As a result, this combination enhances vibration damping, leading to more stable operations, improved geometrical accuracy, and superior surface finishes. The result is a highly efficient and precise machine with extended durability.

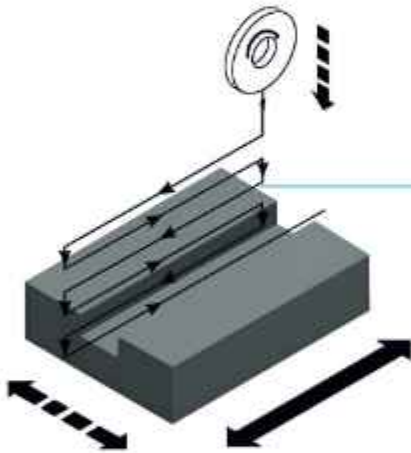


Automatic Dressing

Smart feature for automatic dressing on table and when the grinder enters an automatic dress cycle, the table automatically positions itself where the diamond is set to dress and compensate according to operator settings and continues grinding.

Easy User Interface

Operator skill level and fatigue reduced by eliminating manual machine operation. The complete grinding is done in auto cycle by feeding the required data in our user-friendly interface HMI. However, in case any manual operation is specifically required, it can be done by using MPG mode.

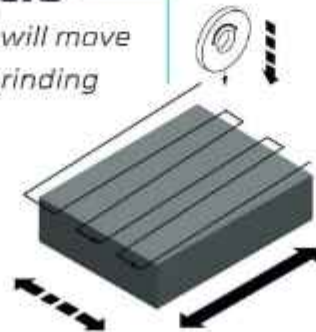


Plunge Cycle

Plunge Grinding Cycle is used for slot or side face grinding operation. It can also be utilised for top face grinding when component width is lower than wheel width. Here cross axis is fixed, and only vertical axis will move downward after each table reversal.

Intermittent Traverse Cycle

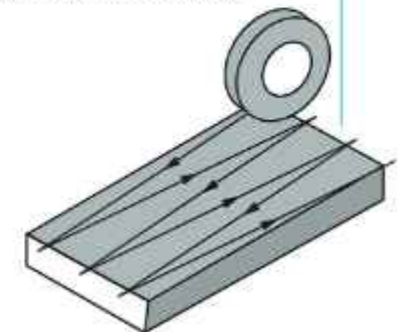
In Intermittent Traverse Cycle, the cross axis will move further after each table reversal for surface grinding operation.



Continuous Traverse Cycle (OPT)

In Continuous Traverse Cycle, the longitudinal and cross axis will move simultaneously.

***This feature is only available with machine having servo motor in cross axis.**



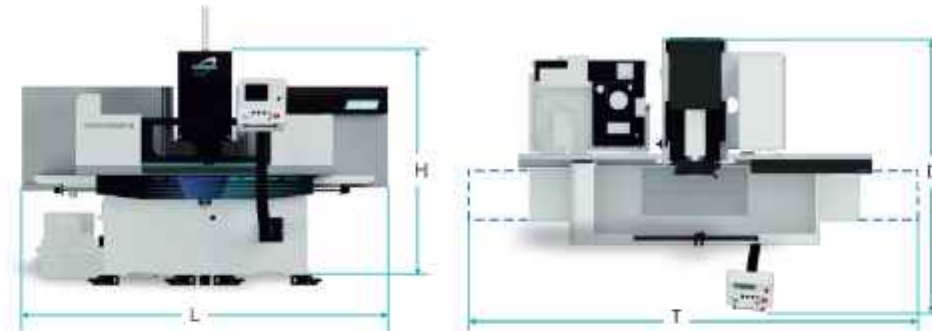
Machine Specifications

Model No	Unit	SG 7040	SG 8040 L	SG 1050	SG 1260	SG 1570	SG 2070
Capacity							
Grinding Area	mm	700 X 400	800 X 400	1000 X 500	1200x600	1500x700	2000x700
Longitudinal Travel	mm	750	850	1100	1300	1600	2100
Cross Travel	mm	405	450	510	620	720	720
Distance Between Table to Spindle Centre	mm	525	525	650	650	750	750
Table Slot	mm	16	16	16	16	16	16
Max Load on Table (e.m Chuck + Component)	kg	350	350	600	750	1050	2000
Spindle & Grinding Wheel							
Spindle Motor	kW	3.75	3.75	5.5	7.5	11	11
Speed Max.	rpm	1400	1400	1400	1000	1000	1000
Lubrication		Greased for Life	Greased for Life	Greased for Life	Greased for Life	Greased for Life	Greased for Life
Grinding Wheel (OD X WIDTH X ID)	mm	300 X 40 X 76.2	300 X 40 X 76.2	350x65x127	350x65x127	400x100x127	400x100x127
Traverse Speed							
Table Speed	m/min	1 - 28	1 - 28	1 - 28	1 - 28	1 - 28	1 - 28
Vertical Rapid	mm/min	300	300	300	300	300	300
Minimum Increment in Vertical Axis	mm	0.001	0.001	0.001	0.001	0.001	0.001
Cross Feed/Stroke	mm/stroke	1 - 10	1 - 10	1 - 10	1 - 65	1 - 100	1 - 100
Cross Rapid Traverse	mm/min	1200	2000	1200	2000	2000	2000
Drive							
Longitudinal		Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Vertical		Servo Motor with Ball Screw	Servo Motor with Ball Screw	Servo Motor with Ball Screw	Servo Motor with Ball Screw	Servo Motor with Ball Screw	Servo Motor with Ball Screw
Other							
Total Power Consumption	kW	7	7	12	14	18	21
Input Power Source		415v/3 Phase/50 Hz	415v/3 Phase/50 Hz	415v/3 Phase/50 Hz	415v/3 Phase/50 Hz	415v/3 Phase/50 Hz	415v/3 Phase/50 Hz
Machine Weight	kg	2500	3000	5000	6000	7500	10000
Machine Dimension	mm	3150x1975x2550	3750x2500x1950	4690x2475x2900	5200x2990x2900	6470x3550x3100	8500x3600x3100

Note: Specifications and features are subject to change without prior notice. Please refer to the offer document, as it has precedence.

Machine Layouts

Sr. No.	Machine Model	Length (l)	Travel (t)	Depth (d)	Height (h)
1	SG-7040	2755	3150	1975	2550
2	SG-8040	3350	3750	2500	1950
3	SG-1050	3530	4690	2475	2900
4	SG-1260	3780	5100	2730	2900
5	SG-1570	4825	6475	3305	3075
6	SG-2070	6335	8500	3540	3100



Standard Features

- Auto Grinding Cycle through NC Control
- Programmable Display Unit of 0.001 mm Resolution for Vertical Axis & Cross Axis
- MPG Mode of Operation for Precise Controls of 0.001 mm Vertical Axis & Cross Axis
- Table Movement by Hydraulic Cylinder with End Cushioning and Infinitely Variable Table Speed
- Table Stroke Setting by a Pair of Proximity Sensors
- Machine Base, Column, Cross Slide, Table are made of High Quality Cast Iron
- V & Flat Guide Ways Lined with Turcite-B for all Axes
- Centralised Automatic Lubrication System
- Interlocks on Table Traverse and Cycle Start/Spindle Rotation
- Coolant System consisting of Coolant Pump, Splash Guards, Manually Adjustable Coolant Nozzle with all Pipe and Hose Connections

- The Hydraulic Unit is situated inside the Coolant Tank for Increased Thermal Stability.
- Operating Instruction Manual
- Grinding Wheel
- Grinding Wheel Flange
- Grinding Wheel Clamping/Extraction Bolt
- Single Point Diamond Dresser
- Machine Levelling Base
- Machine Geometrical Test Chart 1 No.

Optional Features

- Electromagnetic Chuck (Fine Pole)
- Multipoint Diamond Dresser with Diamond
- 3-point Diamond Dresser with Diamond
- Overhead Dresser
- Auto Dressing with Compensation
- Auto Magnetic Separator
- Auto Paper Band Filtration System
- Dust Extractor
- Grinding Wheel
- Wheel Flange (recessed) as per Wheel Size for each model
- Static Wheel Balancing Stand as per Wheel Size for each model
- Variable Spindle Speed
- SM Guarding with Sliding Door

SURFGRIND Rotary Type



Specification	Unit	RSG 800	RSG 1000
Capacity			
Grinding Diameter	mm	800	1000
Cross Travel	mm	420	520
Distance between Table to Spindle Centre	mm	650	650
Maximum Load on Table	Kg	650	800
Spindle & Grinding Wheel			
Spindle Motor	kW	11	11
Speed Max.	rpm	1000	1000
Grinding Wheel (OD X WIDTH X ID)	mm	400x100x127	400x100x127
Feed & Traverse			
Table Speed	rpm	10-60	10-60
Minimum Incremental Invertical Axis	mm	0.001	0.001
Vertical Rapid Feed Rate	mm/min	300	300
Cross Feed	mm/min	2000	2000
Others			
Total Power Consumption	kW	15	18
Machine Weight	Kg	9000	9200
Machine Dimension	mm	3550x3900x2900	3550x3900x2900

Note: Specifications and features are subject to change without prior notice.
Please refer to the offer document, as it has precedence.

Standard Features

- Auto Grinding Cycle through NC Control
- Programmable Display Unit of 0.001 mm Resolution for Vertical Axis & Cross Axis
- MPG Mode of Operation for Precise Controls of 0.001 mm Vertical Axis & Cross Axis
- Machine Base, Column, Cross Slide, Table are made of High Quality Cast Iron
- V & Flat Guide Ways Lined with Turcite-B for all Axes
- Centralised Automatic Lubrication System
- Coolant System consisting of Coolant Pump, Splash Guards, Manually Adjustable Coolant Nozzle with all Pipe and Hose Connections

- Operating Instruction Manual
- Grinding Wheel & Flange
- Grinding Wheel Clamping/Extraction Bolt
- Single Point Diamond Dresser
- Machine Levelling Base & Geometrical Test Chart

Optional Features

- Electromagnetic Chuck (Fine Pole)
- Multipoint Diamond Dresser with Diamond
- 3-point Diamond Dresser with Diamond
- Overhead Dresser
- Auto Dressing with Compensation

- Auto Magnetic Separator
- Auto Paper Band Filtration System
- Dust Exhauster
- Grinding Wheel
- Wheel Flange (recessed) as per Wheel Size for each model
- Static Wheel Balancing Stand as per Wheel Size for each model
- Variable Spindle Speed
- SM Guarding with Sliding Door



Corporate Office

Cosmos House, Plot No. 85/2, Padra Road, Atladara, Vadodara, Gujarat - 390 012

Manufacturing Facilities

Plant - I

Cosmos Impex India Pvt. Ltd., Plot No. 847, 848 Village Ranu, Ta. Padra, Vadodara, Gujarat - 391 445

Plant - II

Plot No. 68-B, Sigil Compound, Padra Road, Atladara, Vadodara, Gujarat - 390 012

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