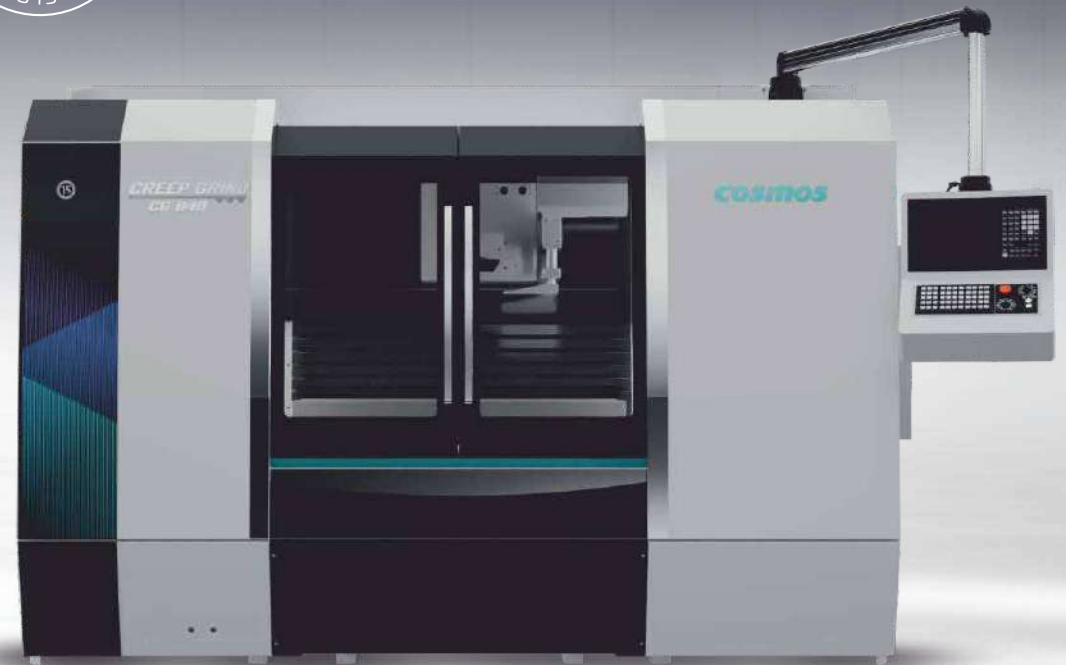


GRINDING Series

Surface Grinders, Creep Feed & Rotary Type Grinding Machines



SG-740 | SG-840 | SG-1050 | SG-1260 | SG-1570 | SG-2070 | CG-840 | RSG-8 | RSG-10

APPLICATIONS ACROSS INDUSTRIES

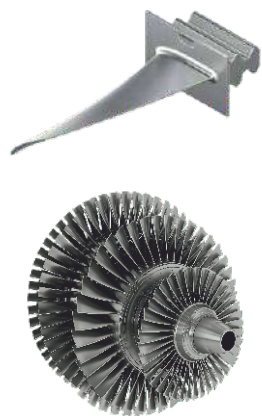
DIE & MOULD

CIVIL AVIATION

MEDICAL IMPLANTS

AUTOMOTIVE

PRECISION ENGINEERING



Shaping The Future By Shaping Metal

Cosmos is a CNC machine tool manufacturer established in 1987, focused on developing practical machining solutions for production environments. The company began with the supply of advanced vertical machining centres and later expanded into the **manufacturing of surface grinding machines, drill tap centres, vertical machining centres, vertical lathes, and other CNC solutions.**

Today, Cosmos provides machining solutions ranging from entry-level production machines to advanced technology platforms. Machine development focuses on rigidity, accuracy, and long-term stability to support consistent performance in production environments.

With manufacturing rooted in India's industrial strength and aligned with global standards, Cosmos focuses on delivering machining solutions that support long-term customer relationships. This approach is guided by the company's core values of

Integrity, Meritocracy, Respect for Individuals, Dynamic Thinking, Creativity & Innovation, and Social Responsibility.

Cosmos Manufacturing Unit 1

Comprehensive Machining, Fabrication & Assembly Hub

This facility forms the backbone of our manufacturing excellence, producing high-performance CNC machines with industry-leading accuracy and reliability.

Manufacturing Footprint
~15 acres

Workforce
~1200
Skilled Professionals



Cosmos Manufacturing Unit 2

Heavy Machinery Manufacturing & Final Integration

This unit plays a critical role in ensuring that every Cosmos machine delivers superior performance, longevity, and precision.

Manufacturing Footprint
~2.5 acres

Upcoming Manufacturing Facility
~25 acres

Workforce
~250 Skilled Professionals



Casting



Machining



Fabrication



Powder Coating



Machine Assembly



Sheet Metal Assembly



Electrical & Controller Assembly



Final Quality Assurance & Dispatch



Surfgrind Series

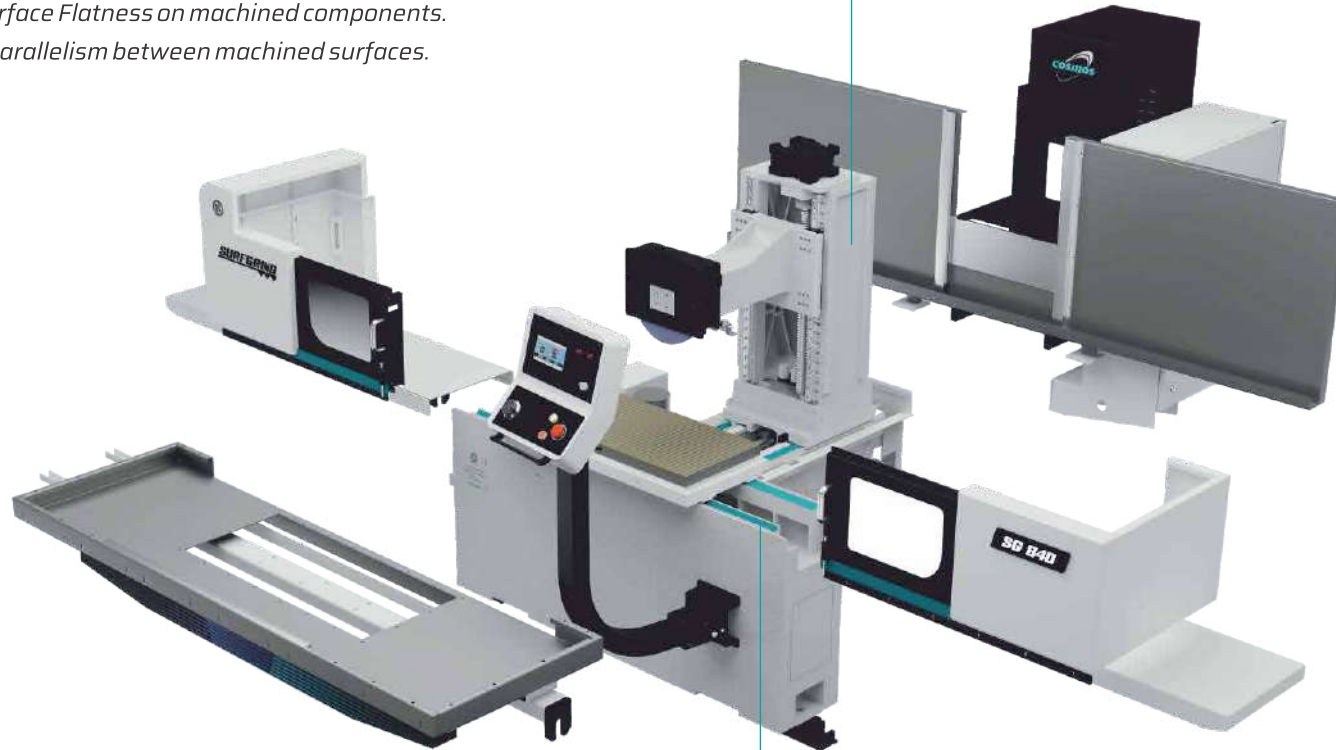
Reciprocating-Type



Machine Architecture & Key Features

Column Moving Architecture

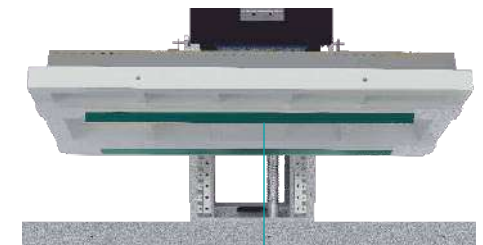
- Ensures high structural stability with independent Motion on X, Y, and Z Axes for precise control.
- Enhanced Structural Rigidity for long-term durability.
- Improved Machining Accuracy during complex operations.
- Superior Surface Flatness on machined components.
- Enhanced Parallelism between machined surfaces.



- 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
- External Maintenance-friendly Hydraulics

V and Flat Guideways

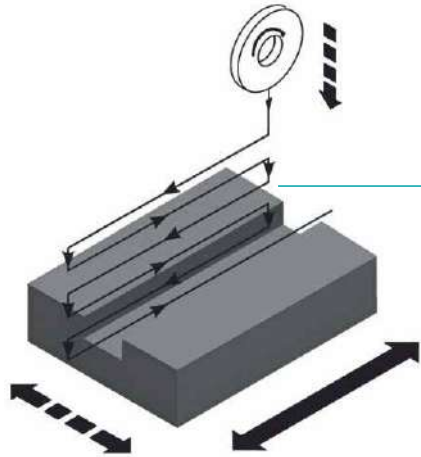
- Precision V & Flat Guideways for high load-bearing capacity.
- Engineered Oil Retention Pockets for effective lubrication.
- Enhanced surface conformity between sliding elements reduces friction and wear, extending guideway life.
- Smooth and Stable Axis Movement during machining.



Turcite-B Guideways

- Low-friction sliding with reduced stick-slip motion
- High vibration damping for stable grinding accuracy
- Improved surface finish through smooth table movement
- Reduced guideway wear for longer service life

Automatic Grinding Cycle

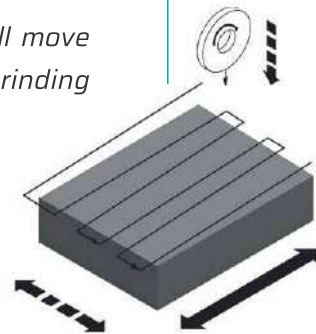


Plunge Cycle

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

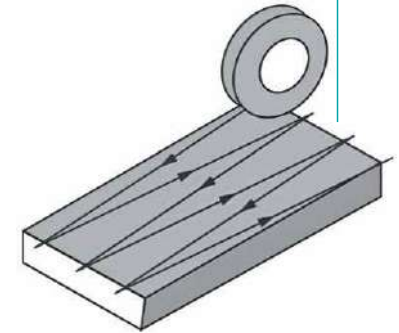
In Intermittent Traverse Cycle, the cross axis will move further after each table reversal for surface grinding operation.



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.*

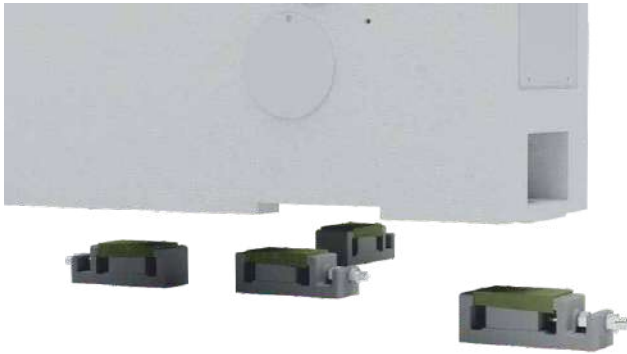


Easy User Interface

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.

**Kindly Note: Also available with customized cycle options.*

High-Performance Anti-Vibration Leveling Pads



- Effective Isolation from Floor-Borne Vibrations
- Absorption of Dynamic Cutting Forces
- Stable Machine Positioning During Grinding
- Improved Machining Accuracy
- Enhanced Surface Finish Quality

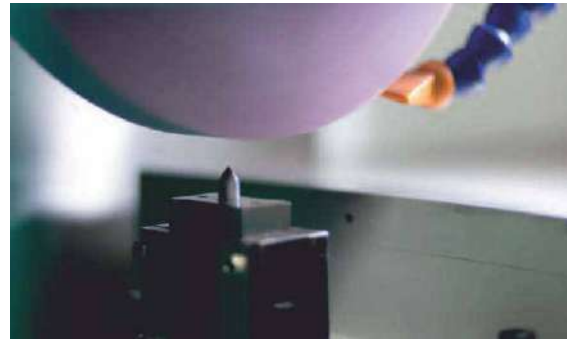
ASSURED PERFORMANCE



Parallelism

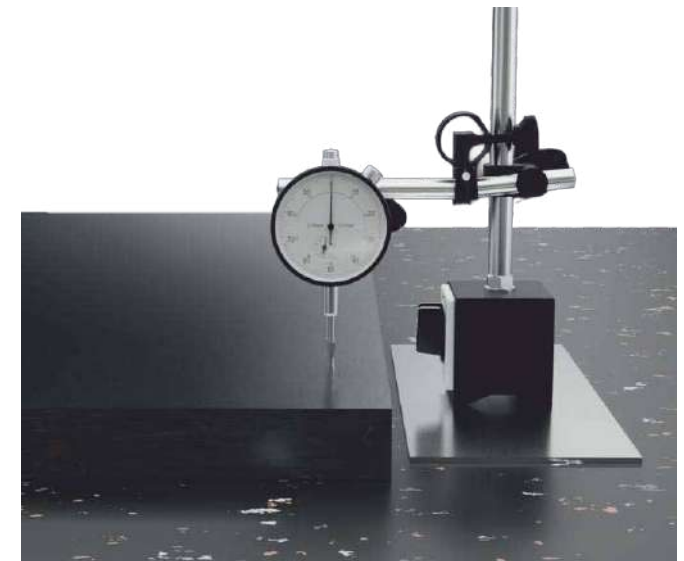
10µm on (1000 x 500 x 50mm) Work Piece Size.

Automatic Dressing



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

***Plate Material —
Normal Hardened Steel - C45**



Flatness :

10µm on (1000 x 500 x 50mm) Work Piece Size.

***Kindly Note:** Surface finish, parallelism, and flatness may vary depending on machine size, component dimensions, and material properties.

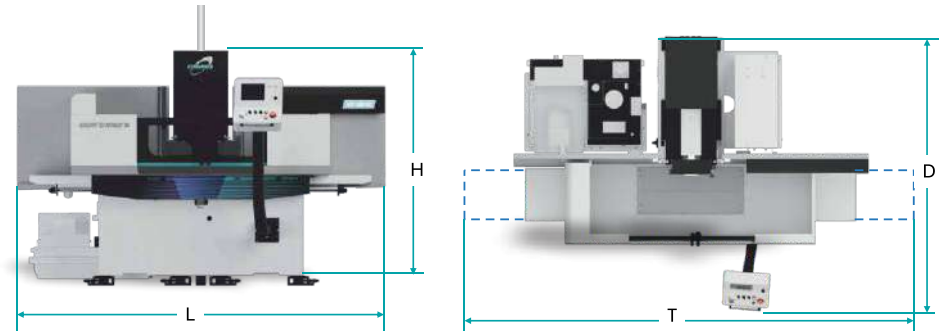
Machine Specifications

Model No	Unit	SG 740	SG 840 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
Cross		3Ø Induction Motor with Inverter & Ball Screw	AC Servo Motor with Ball Screw	3Ø Induction Motor with Inverter & Ball Screw	AC Servo Motor with Ball Screw	AC Servo Motor with Ball Screw	AC 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 Mode	Length (l)	Travel (t)	Depth (d)	Height (h)
1	SG-740	2755	3150	1975	2550
2	SG-840	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
- MPG Mode of Operation for Precise Controls of 0.001 mm Vertical 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 G 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
- Multipoint Diamond Dresser with Diamond
- Machine Levelling Base
- Machine Geometrical Test Chart 1 No

Optional Features

- Electromagnetic Chuck (Fine Pole)
- 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 as per Wheel (recessed) Size for each model
- Static Wheel Balancing Stand as per Wheel Size for each model
- Variable Spindle Speed
- Full enclosed SM Guarding Sliding Door with limit switch for safety interlock
- AC servo motor with ball screw for SG 750 & SG 1050
- Full guarding option for all the models

Creepgrind CG-840

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 MATERIAL
REMOVAL RATE**

**SHORT
CYCLETIME**

**REDUCED
MACHINE WEAR**

**LOW HEAT AT
WORKPIECE**

**ELIMINATE
MACHINING**

**LONGER
WHEEL LIFE**

Machine Architecture & Key Features

High Accuracy Machining due to Rigid Structure

- High static and dynamic machine stability with consistent table speed, even at low feeds
- Infinitely variable spindle speed with high-power spindle motor for demanding grinding applications
- Integrated wheel dressing system with automatic wheel wear compensation
- CNC programmable grinding cycles for automated operation
- High-pressure coolant system with automatic wheel balancing for stable grinding performance

Innovative Machine Design

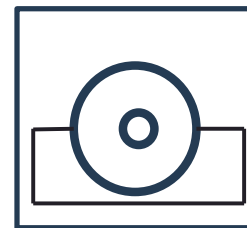
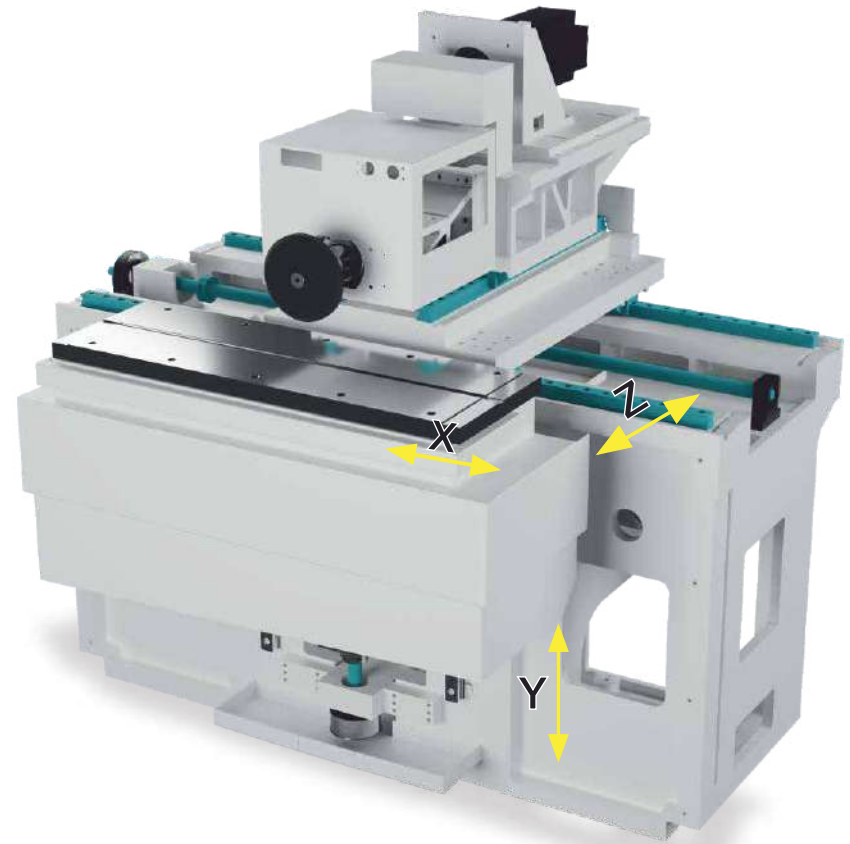
- **Dynamic Rigidity:** High levels of dynamic rigidity minimise vibrations for precision and performance.
- **Advanced Control Systems:** Available with Siemens or Mitsubishi CNC controls for precision contour dressing.
- All linear movements during grinding are performed by the grinding head.
- Vertical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

Linear Guideways

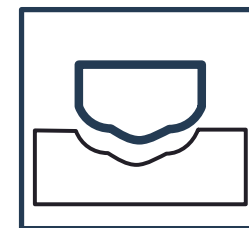
All axes are equipped with precision linear guideways with preloaded blocks. Ensure smooth synchronised multiaccess motion while grinding.

Ball Screw with Servos

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

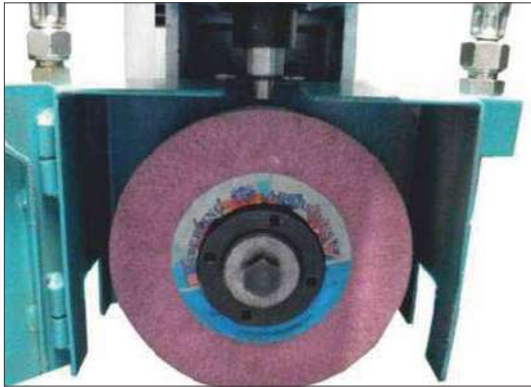


Slot



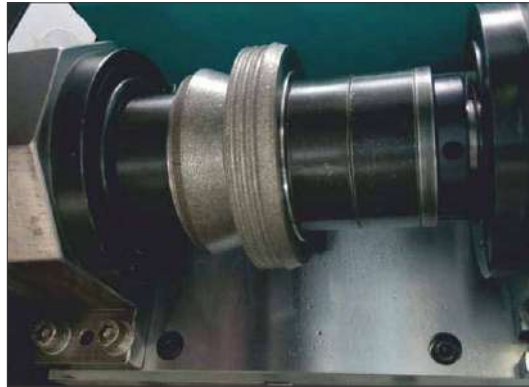
Form

Dressing Options



Head Mounted Dresser

Used for intermittent or continuous dressing



Crush Roll Dressing Unit

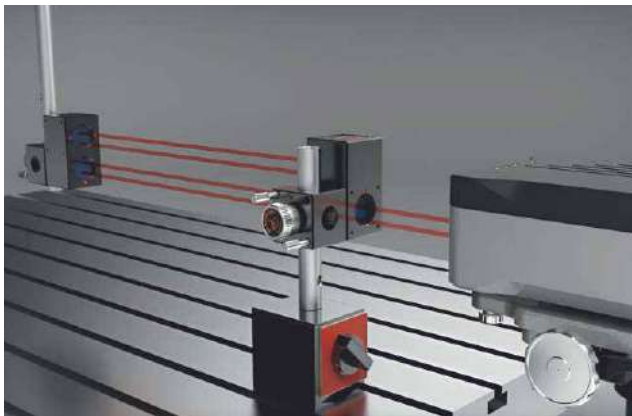
Suitable for crush dressing of vitrified CBN wheel



High Precision Diamond Disk

Used for intermittent or continuous dressing

Quality & Accuracy



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.

HIGH MRRs THAT MATCH MILLING MACHINES



SPLINE GRINDING APPLICATION

MATERIAL
FORGED STEEL 60HRC

PLUNGE
GRINDING METHOD

2
NO. OF PASS

8mm
WIDTH OF CUT

5mm
DEPTH OF CUT

0.4RA
SURFACE FINISH

H7
ACCURACY

Machine Specifications

Features	Description	Unit	CG-840	
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.
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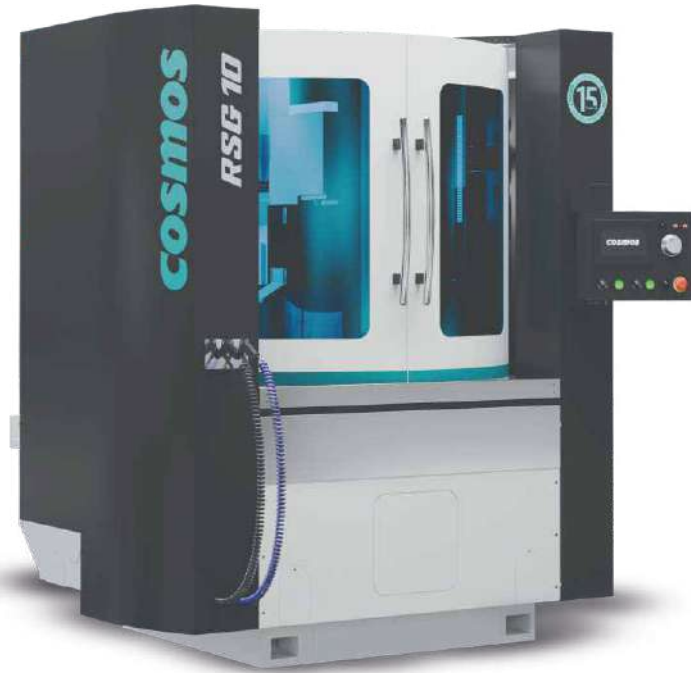
Optional Features

- 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: Siemens 828D / 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 mode 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
- 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 Ø 400 mm
- 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 Rotary Type



Specification	Unit	RSG 8	RSG 10
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
- Multipoint Diamond Dresser with Diamond
- Machine Levelling Base & Geometrical Test Chart

Optional Features

- Electromagnetic Chuck (Fine Pole)
- 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 as per Wheel (recessed) Size for each model
- Static Wheel Balancing Stand as per Wheel Size for each model
- Variable Spindle Speed
- Full enclosed SM Guarding Sliding Door with limit switch for safety interlock

Other Product Range

digifac

SMARTCONNECT⁺

CVM SERIES



High Performance Machining Centres

MEGAMILL SERIES



Double Column Machining Center

DYNAMILL SERIES



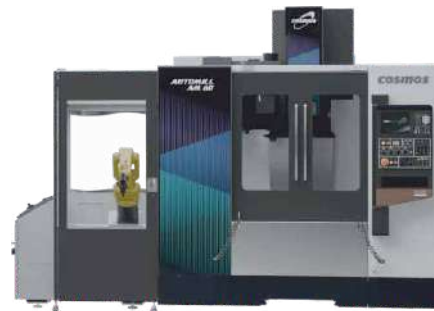
Monoblock Machining Center

SMARTMILL & TAPMILL SERIES



High Speed Milling & Taping Center

AUTOMILL SERIES



Auto Tending Machining Center

V-TURN SERIES



Vertical Turning Lathe

YOUR PARTNER IN
PROGRESS 



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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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