



GHIRINGHELLI
Centerless Solutions



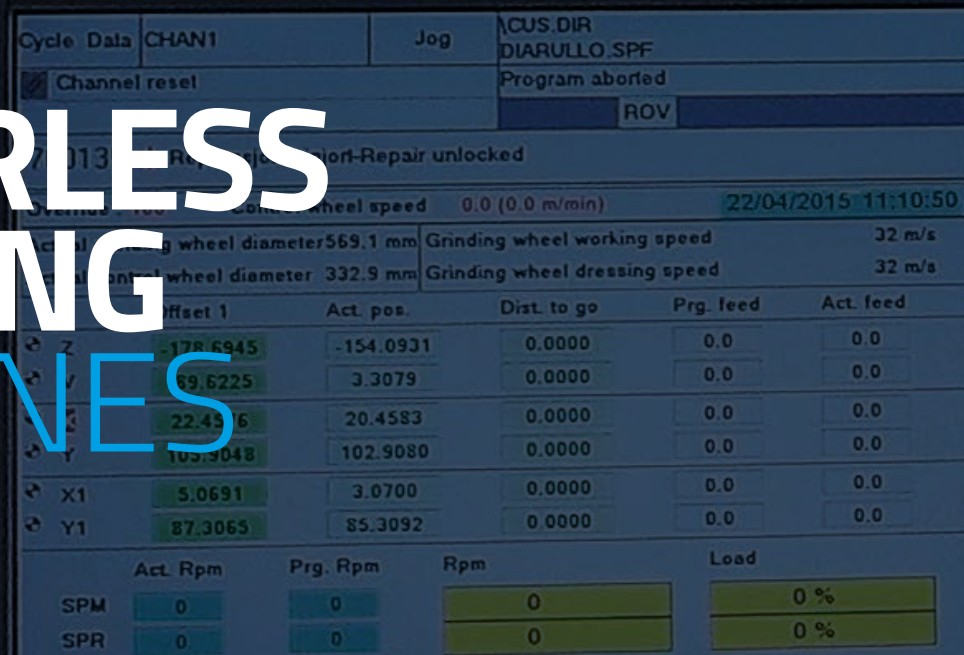
M
100
APGS
APGM
CF
400
CF
600

CENTERLESS GRINDING MACHINES

A strategy precise to the micron



SERIES OF CENTERLESS GRINDING MACHINES



Cycle Data	CHAN1	Jog	NCUS.DIR
			DIARULLO.SPF
Channel reset		Program aborted	
		ROV	
Short-Repair unlocked			
Grinding wheel speed		0.0 (0.0 m/min)	
Grinding wheel diameter 569.1 mm		Grinding wheel working speed 32 m/s	
Grinding wheel diameter 332.9 mm		Grinding wheel dressing speed 32 m/s	
Offset 1	Act. pos.	Dist. to go	Prg. feed
-178.6945	-154.0931	0.0000	0.0
69.6225	3.3079	0.0000	0.0
22.4516	20.4583	0.0000	0.0
105.9048	102.9080	0.0000	0.0
X1	5.0691	3.0700	0.0000
Y1	87.3065	85.3092	0.0000
Act. Rpm	Prg. Rpm	Rpm	Load
SPM 0	0	0	0 %
SPR 0	0	0	0 %



CUSTOMIZED DESIGN AND RESEARCH

Thanks to our own long-established experience all **Ghiringhelli Centerless Grinding Machines** guarantee **high production at low cost, precise manufacturing, maximum industrial yield, quick and easy operation of machines**. Team of specialists, equipped with the most modern technologies, guarantee also a constant research and development activity.



AN ANSWER FOR EVERY NEED

All **Ghiringhelli Centerless Grinding Machines** are projected and designed **according to the specific end user's and customer's requirements**. Every machine is conceived in accordance with the most modern principles of **ergonomics, eco-compatibility and low / reduced energy consumption**, and in conformity with the recent **Industry 4.0** standards.



TESTING FOR GLOBAL QUALITY

Rettificatrici Ghiringhelli S.p.A. perform the **final testing of all machines** at the customer's presence in order to prove the production and the quality requirements. A special and modern **measuring room** is at the teamwork's complete disposal to carry out the final commissioning tests and the quality analysis concerning the geometric, surface and dimensional tolerances.



AFTER SALES SERVICE

Represented in five continents with a well established sales network **Rettificatrici Ghiringhelli Spa** devote particular attention to the **after-sales service**. All **Ghiringhelli** machines are covered by a full warranty for 12 months, or on request for 24 months, provided by their own specialized technicians who can also grant an **accurate after sales service and consultancy** to all customers after the warranty expiration.



SOLUTIONS PRECISE TO THE MICRON



MACHINE MODELS



TECHNICAL
FEATURES OF THE

**M
100**

Series of high tech and accurate centerless grinders, very compact and flexible, suitable for the grinding of a wide range of different components in medium and large batches

- Mineral casting frame granting excellent material absorption and thermal stability with best possible heat inertia, very good mass / rigidity ratio, perfect ecological balance
- Grinding wheel head with spindle mounted on two hydrodynamic bearings with frequency converter for the constant peripheral speed
- Control wheel spindle on special high precision bearings reinforced through a 3rd outboard bearing support

TECHNICAL
FEATURES OF THE

APG
S



Series of high tech centerless grinding machines responding to the modern principles of eco-compatibility and to the end user's requests for an overall reduced energy consumption

Mineral casting frame granting excellent material absorption and thermal stability with best possible heat inertia, very good mass / rigidity ratio, perfect ecological balance

Grinding wheel head with spindle mounted on (3) three hydrodynamic bearings with frequency converter for the constant peripheral speed

Control wheel head with spindle mounted on (2) two high precision preloaded bearing holders

TECHNICAL
FEATURES OF THE

APG
M





TECHNICAL
FEATURES OF THE

**CF
400**

Series of high-tech centerless grinders suitable for the plunge grinding and the throughfeed grinding in a unique machine configuration

- Composite structure with mineral casting filling, granting excellent material absorption and thermal stability with best possible heat inertia, very good mass / rigidity ratio, perfect ecological balance
- Grinding wheel head with spindle mounted on (2) two hydrodynamic bearings with frequency converter for the constant peripheral speed
- Control wheel head with spindle mounted on (2) two high precision preloaded bearing holders



TECHNICAL
FEATURES OF THE

**CF
600**



TECHNICAL SPECIFICATIONS

**M
100****APG
S****GRINDING CAPABILITY**

grinding part diameter



grinding part length in plunge cycle



min 0,5 mm
max 20 mm
120 mm

min 1,5 mm
max 70 mm
250 mm

GRINDING WHEEL

grinding wheel width



grinding wheel O.D.

grinding wheel bore

grinding wheel peripheral speed

grinding wheel motor power

130 mm
406 mm
203,2 mm
50 (63)* m/s
11 kW

150 mm
610-508 mm
304,8 mm
50 (63)* m/s
15 kW

CONTROL WHEEL

control wheel width

control wheel O.D.

control wheel bore

minimum control wheel r.p.m.

maximum control wheel r.p.m.

control wheel r.p.m. during dressing cycle

control wheel motor torque



120 mm
152 mm
127 mm
5 r.p.m.
140 r.p.m.
400 r.p.m.
5 Nm

150 mm
305 mm
152,4 mm
2 r.p.m.
140 r.p.m.
400 r.p.m.
11 Nm

NET WEIGHT OF THE MACHINE

3900 kg

10000 kg

MACHINE DIMENSIONS

2000x1100 mm

3700x1600 mm

**APG
M****CF
400****CF
600**

min 1,5 mm
max 70 mm
250 mm

min 1,5 mm
max 70 mm
250 mm

min 2 mm
max 90 mm
300 mm

min 3 mm
max 90 mm
400 mm

min 5 mm
max 150 mm
650 mm

200 mm
610-508 mm
304,8 mm
50 (63)* m/s
22 kW

250 mm
610-508 mm
304,8 mm
50 (63)* m/s
30 kW

300 mm
610 (660)* mm
304,8 mm
50 (63)* m/s
37 kW

400 mm
610 mm
304,8 mm
50 (63)* m/s
51 kW

660 mm
660 mm
304,8 mm
50 (63)* m/s
74 kW

200 mm
305 mm
152,4 mm
2 r.p.m.
140 r.p.m.
400 r.p.m.
11 Nm

250 mm
305 mm
152,4 mm
2 r.p.m.
140 r.p.m.
400 r.p.m.
11 Nm

300 mm
355 mm
203,2 mm
5 r.p.m.
140 r.p.m.
400 r.p.m.
11 Nm

400 mm
355 mm
203,2 mm
5 r.p.m.
200 r.p.m.
400 r.p.m.
20 Nm

660 mm
400 mm
203,2 mm
5 r.p.m.
200 r.p.m.
400 r.p.m.
60 Nm

10500 kg

10700 kg

11000 kg

11000 kg

20500 kg

3700x1600 mm

3700x1600 mm

3700x1600 mm

3900x1600 mm

4500x1900 mm

* option



A great product
comes from small details



TECHNICAL FEATURES

OF ALL MACHINE TYPES

- | **Working slides mounted** on high preloaded precision roller guideways
- | **Automatic balancing unit** for the grinding wheel
- | **Constant peripheral speed** of the grinding wheel with frequency converter
- | **Siemens Sinumerik 840D Solution Line CNC unit**, and powerful interface man-machine developed by Ghiringhelli SPA integrating the machine and all the equipments in order to grant the optimal lean manufacturing process
- | **Electric cabinet mounted externally** to the machine and built in compliance with the European directives. All 24 V.DC control circuits
- | **Main control panel** integrated into the electric cabinet
- | **Fume extraction hood** complete with **exhausters and/or sprinklers** for grinding with cutting oil
- | **Safety guards and protections** in compliance with the European directives. Maximum attention to the operator safety during all machine working phases



AVAILABLE MACHINE CONFIGURATION

	M 100	APG S	APG M	CF 400	CF 600
Grinding wheel dressing with two interpolated axes X and Y through diamond tool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grinding wheel dressing with two interpolated axes X and Y through diamond disk mounted on electro-spindle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grinding wheel dressing with profiled diamond roll		<input type="checkbox"/>	<input type="checkbox"/>		
Combined grinding wheel dressing with diamond disk or profiled diamond roll		<input type="checkbox"/>	<input type="checkbox"/>		
Possibility to carry out grinding operations in tilted plunge cycle		<input type="checkbox"/>	<input type="checkbox"/>		
Axial displacement of the grinding wheel spindle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Possibility to acquire data in local and/or from peripheral connection units to upload instructions and/or programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machine integration with loading, feeding and unloading systems, orientation and post-process gauging units of the components according to the production needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Possibility to have the interface and/or the integration with other machines of the production line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tilting and swiveling control panel , according to the most recent concepts of ergonomics		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tele diagnostics and/or tele assistance and/or service programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIFE CYCLE OF OUR PRODUCT

CUSTOMER'S NEEDS

ANALYSIS AND DEFINITION OF THE PROJECT

MACHINE MANUFACTURING AND COMMISSIONING

MACHINE TEST AND TRAINING AT THE CUSTOMER'S PRESENCE

FINAL TEST AT THE CUSTOMER'S PREMISES AND TRAINING

WARRANTY AND AFTER-SALES SERVICE

Customer's satisfaction

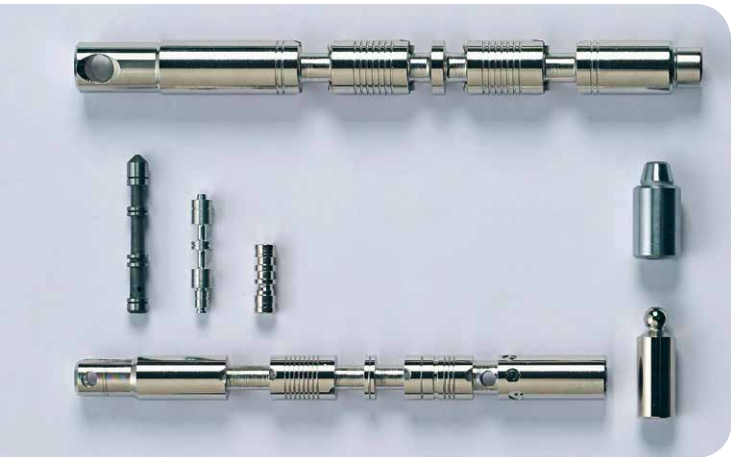
Rettificatrici Ghiringhelli S.p.A. has always been involved in the satisfaction of all its customers' requirements and needs.

Due to the high quality and reliability of its machines, the company has become a leading manufacturer of **centerless grinding machines** and capable to satisfy all production demands of a bigger and a more and more qualified clientele.

Being a problem solver has therefore become during the years the *mission* of the company.



ELECTRIC MOTORS



HYDRAULICS



TOOLS



SECTORS OF APPLICATION



AUTOMOTIVE



FUEL INJECTION UNITS



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UNI EN ISO 9001:2008 - Cert. n. 1792/5

