BOMBARDI RETTIFICHE

FINE GRINDING

GRINDING AND LAPPING

www.bombardi.it

55

1964 | 2019

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001

SINCE 1964 SPECIALISTS IN FINE GRINDING AND SURFACE GRINDING

Founded in 1964, Bombardi Rettifiche is the mechanical engineering company of Cadelbosco Sopra (Reggio Emilia), specializing in surface grinding.

It performs for third parties accurate Fine-grinding, Lapping and Machining on a flat surface on sintered material, hydraulic components, gears, large plates, components for hydraulic systems, earth-moving machines and automotive industry.

For over 55 years, the company looks to the future by investing in technology, quality and people.

The goal of the last decade has been to completely revamp its fleet to offer customers a better service and in line with new market requirements.

It is currently presented as a modern reality, provided with advanced equipment and machines that enable the realisation of several machining operations in the field of fine-grinding and that have substantially increased the production capacity.

With an eye to the future, in 2018 Bombardi Rettifiche installed

the first AUTOMATED plant in line with the Italian market, consisting of AC-1000 Peter Wolters Fine-grinding Machine, BD-300L Peter Wolters Brushing Machine and MEG Ultrasonic Cleaning System.

Fine-grinding already totally complies with INDUSTRY 4.0 requirements, while the final part of the system will comply by the end of 2019.

Such a plant is specialized in the processing of sintered components for the automotive sector.

Since the late 90s, the high-accuracy technologies of Bombardi Rettifiche have been presented to the most important trade fairs in Italy and abroad: including Mecspe, Medtec Italy, Bi-Mu/Sfortec, Hannover Messe and Agritechnica.

In 2000 it obtained the first issue of the UNI EN ISO 9002:1994 quality certificate up to the achievement of the UNI EN ISO 9001: 2015 standard reviewed by DNV-GL.

All machines and equipment are CE compliant and Production and Warehouse departments comply with current regulations concerning safety.

OUR PRODUCTION PROCESS

The methods of planning and control of production processes adopted by Bombardi Rettifiche S.r.l. ensure proper execution of the work as compared to the customer needs.

Analysis
Technical - financial terms and timelines

Pre-production
Work cycle processing

Customer Requirements
It's possible to process extra control documentation in addition to the standard one provided by the company.
We can provide:
- ISIR
- Psw
- PPAP
- Manufacturing Process Flow Chart
- Process FMAE
- XR Chart

Production
Selection of the most suitable machine in relation to processing for product traceability

Verification
Control of Product Processing and quantity during the production process

Warehouse
Storage of the finished lot and its shipping within the agreed time

FINE-GRINDING MACHINES, TOOLS AND MACHINABLE DIMENSIONS

The production unit specializing in fine-grinding of Bombardi Rettifiche is unique in its kind.

Machinery and tools enable simultaneous working on two flat surfaces, sintered components, made of cast iron, iron, steel, aluminium, titanium and bronze with:

- Ø 292 mm

- Tolerances of flatness and parallelism of less than 0,002 mm

- roughness of less than 0.4 RA

MACHINE	DESCRIPTION	DIMENSIONS MATERIAL	INSTRUMENT
Fine-Grinding AC1000 -F	Peter Wolters Parallel Plans 150 rounds / minute Power: 48 kW	Machinable Ø 292 mm Tol. < 0,002 mm Roughness < 0,4 RA	Tesa Tronic TT80 probe connected to Pc Panel to check measurement error, roundness measurement instrument, Roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-Grinding ELC 800	Melchiorre Parallel Planes 120 rounds / minute Power 30 Kw	Machinable Ø 227 mm Tol. < 0,003 mm Roughness < 0,4 RA	Millesimal Comparators, roundness measurement instrument, roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-grinding ELC 800	Melchiorre Parallel Planes 120 rounds / minute Power 22 Kw	Machinable Ø 227 mm Tol. < 0,003 mm Roughness < 0,4 RA	Millesimal Comparators, roundness measurement instrument, roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-grinding ELC 800	Melchiorre Parallel Planes 200 rounds / minute Power 37 Kw	Machinable Ø 227 mm Tol. < 0,003 mm Roughness < 0,4 RA	Millesimal Comparators, roundness measurement instrument, roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-grinding ELC 800	Melchiorre Parallel Planes 200 rounds / minute Power 37 Kw	Machinable Ø 227 mm Tol. < 0,003 mm Roughness < 0,4 RA	Millesimal Comparators, roundness measurement instrument, roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-grinding AC700 - F	Peter Wolters Parallel Plans 120 rounds / minute Power 15 Kw	Machinable Ø 227 mm Tol. < 0,002 mm Roughness < 0,4 RA	Tesa Tronic TT80 probe connected to Pc Panel to check measurement error, roundness measurement instrument, Roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes
Fine-grinding AC700 -F	Peter Wolters Parallel Plans 300 rounds / minute Power 46 Kw	Machinable Ø 227 mm Tol. < 0,002 mm Roughness < 0,4 RA	Tesa Tronic TT80 probe connected to Pc Panel to check measurement error, roundness measurement instrument, Roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes

FLAT MACHINING MACHINES, TOOLS AND MACHINABLE DIMENSIONS

MACHINE	DESCRIPTION	DIMENSIONS MATERIAL	INSTRUMENT
Surface grinders C.N	Camut Power 130 Hp	3100 x 700 x 650	Centesimal Micrometer, Comparator, Depth measurement instrument, Roughness measurement instrument
C.N.C tangentials	Rosa Silver	2200 x 850 x 650	Roundness measurement instrument, altimeter, roughness measurement instrument, millesimal micrometers, Comparators
	Rosa Steel	1400 x 500 x 500	Roundness measurement instrument, altimeter, roughness measurement instrument, millesimal micrometers, Comparators
	Favretto Rotary Table	Ø 800	Roundness measurement instrument, altimeter, roughness measurement instrument, millesimal micrometers, Comparators
	Camut Mini 415	1500 x 400 x 300	Roundness measurement instrument, altimeter, roughness measurement instrument, thousandth micrometers, Comparators

LAPPING: MACHINES, TOOLS AND MACHINABLE DIMENSIONS

MACHINE	DESCRIPTION	DIMENSIONS MATERIAL	INSTRUMENT
Lapping	Lui Parallel Planes	ø 1200	Roundness measurement instrument, Roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes, Millesimal micrometer, Profiles Projector Digital Vision Swift mm 150x100
	Lui Mono - Table	Ø 800	Roundness measurement instrument, Roughness measurement instrument, Blocks of Parallel Ceramic and Steel Planes, Millesimal micrometer, Profiles Projector Digital Vision Swift mm 150x100

ACCESSORIES AVAILABLE FOR MACHINES AND MACHINING OPERATIONS

ACCESSORIES	DESCRIPTION
CNC Brushing Machine	BD 300L Peter Wolters Ø 270
	Surface Engineering SPL-1U+R
Washing system n° 3	Solvent Robotic Cleaning system Meg F-SG
Tumbling machines	Ultrasonic cleaning area
	TMD 11k Type Tecnomatic Dryer
	Sifter Mod. Rollwash - Mod. rwosa220

One of the goals of our company is to give the customer a guarantee of increasing results and be able to satisfy any type of request, with the help of a comprehensive and cutting-edge range of tools.

The most interesting instruments definitely include the Profilometer, the roundness measurement instrument and the Polytec TMS-500, an optical instrument capable of recording the entire surface in a few seconds without any contact.

Flatness, line profile, beam, 2D profiles, concentricity, perpendicularity, concentricity, straightness, squareness, parallelism, cylindricity, conicity, radial and axial oscillation, diameter and wall thickness are the parameters which are daily monitored by our Quality Team.

QUALITY CHECK: MEASUREMENT INSTRUMENTS

INSTRUMENTS	FEATURES	DESCRIPTION
Polytec, TMS-500 TopMap Pro.Surf	Area of interest in mm: 44,9 x 33,8 Side pixel resolution in µm: 28,2 x 28,2	Polytec TopMap Pro.Surf a non-contact surface measurement and metrology system able to perform rapid measurements and specifies parameters such as flatness, parallelism, line profile, radius and pitch height parameters.
Mitutoyo Profilometer, CV-3200	Resolution o X= 0.05 µm o Z= 0.04 µm	a measuring instrument for 2D profiles at high accuracy and high resolution Thanks to a granite base and the robotic column, It possesses a great stability, which entails greater accuracy during verifications.
The Mitutoyo roundness measurement instrument, Roundtest RA. 2000	Measuring range: Ø 300 mm Resolution: 0,00002 mm Maximum Error Detected: 0,0002 mm	The roundness measurement instrument may be used as follows: concentricity, planarity coaxiality, straightness, perpendicularity, parallelism, cylindricity, conicity radial and axial oscillation, diameter, wall thickness.

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificato no./Certificate No.:	Data prima emissione/Initial date:	Validità:/Valid:
CERT-05748-2000-AQ-BOL-SINCERT	17 February 2000	15 February 2018 - 15 February 2021

Si certifica che il sistema di gestione di/This is to certify that the management system of

BOMBARDI RETTIFICHE S.r.l.

Via Augera, 13 - 42023 Cadelbosco Sopra (RE) - Italy

È conforme ai requisiti della norma per il Sistema di Gestione Qualità/ has been found to conform to the Quality Management System standard:

ISO 9001:2015

Questa certificazione è valida per il seguente campo applicativo:

Lavorazione su disegno del cliente di componenti meccanici in conto terzi e fornitura completa comprensive di rettifiche in piano tangenziale verticale, lappatura e micro-rettifica

(Settore EA: 17)

This certificate is valid for the following scope:

Working on customer drawing of mechanical machining part for third parties and complete supplying including grinding in tangential and vertical planes, lapping and fine grinding

(EA Sector: 17)

Luogo e Data/Place and date:
Vimercate (MB), 30 gennaio 2018

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO

SGQ N° 003 A
SGA N° 003 D
SSI N° 002 G

Membro di MLA EA per gli schemi di accreditamento SGQ, SGA, PRD, PRS, ISP, GHG, LAB e LAT, di MLA IAF per gli schemi di accreditamento SGQ, SGA, SSI, FSM e PRD e di MRA ILAC per gli schemi di accreditamento LAB, MED, LAT e ISP

Per l'Organismo di Certificazione/
For the Certification Body
DNV GL – Business Assurance
Via Energy Park, 14
20871 Vimercate (MB) - Italy

Zeno Beltrami
Management Representative

La validità del presente Certificato è subordinata al rispetto delle condizioni contenute nel Contratto di Certificazione/ Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
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