



CROSSFLEX



GRINDING MACHINE FROM 1921

# TACCHELLA

EXTERNAL GRINDING MACHINE

CROSSFLEX A 1100

CROSSFLEX A 1600

CROSSFLEX A 2100



INTEGRATED GRINDING  
SOLUTION

GB

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# TACHELLA EXTERNAL GRINDING MACHINE – CROSSFLEX A 1100 – 1600 – 2100

## NEW TACHELLA CROSSFLEX A MORE COMPACT, MORE PRODUCTIVE

### Modular tool

The new **IMT Tacchella Crossflex A** grinding machine is the best solution for all grinders focusing on high productivity and flexibility. **Crossflex A** is equipped with a **conventional Ø 610 mm grinding wheel** and three different systems for positioning the wheel holder unit, including a motor B axis for automatic positioning, programmable at will through the SIEMENS 840D sl or Fanuc32i CNC (opt.). Thanks to the wide set of accessories and modular options available, as well as to the possibility of grinding wheels on wheel widths up to 150 mm, this is the perfect solution for any production and machining requirement over electric motors, moulds, shafts, pump gears, etc., for both small and large batches, including multi-diameter machining or interpolations. In addition, the brand new workhead driven by a built-in motor (C-axis) and the new hydraulic tailstock allow this machine to grind round, non round and polygonal workpieces weighing up to 150 Kg between centers. The range can be used for **grinding lengths of 600, 1100 and 1600 mm** with **center heights of 180 mm** (opt. 250).

### From Cross-flex success, the evolution of the species

The **Crossflex** range is founded on the success of the **Cross-flex**, from which it inherits its configurability and flexibility, preserving its concept and adding sophisticated innovations to it, such as the system to monitor maintenance (it signals any maintenance that needs to be performed) or the **ENERGY SAVING** system to lower electrical energy consumption: all by just simply pressing a button. **Crossflex** is **perfect for the sectors of general precision engineering, automotive, electric motors**, etc. Thanks to its broad range of accessories, it allows users to identify the best manufacturing modes, ensuring satisfaction of even the most demanding customers.

### Multi-brand synergies

Designed with the most modern technology, the new **IMT Tacchella Crossflex A** combines an incredibly short cycle time with a fast re-tooling process, which is the fruit of upgrades introduced in the new and intuitive software. The new Crossflex uses a technological platform born out of the team work of engineers of the entire **IMT Group** and which is shared in common by its marketed brands, ensuring an ideal price: quality ratio and brief delivery times.

### Success guaranteed

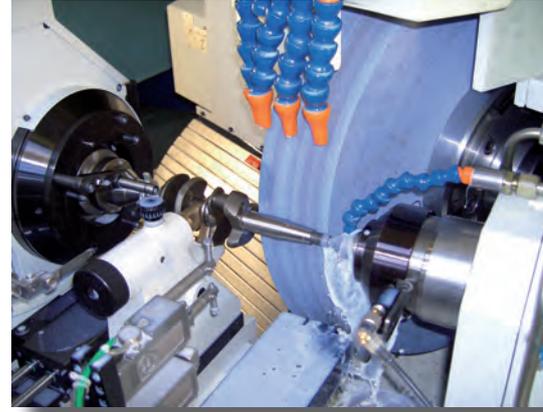
Improved surfaces, improved dimensional tolerances, improved repeatability. With the **new X and Z axis grinding wheel carriage** made of stabilized iron castings and sliding movement on high precision prismatic-plane guides with interposed anti-friction material, mechanism which ensures greater stiffness and better slide. With direct drive transmission thanks to preloaded, high precision **recirculating ball screws** built-in to the Brushless engine (which lowers the need for extraordinary maintenance operations while making them easier). With control via absolute optical linear encoders.

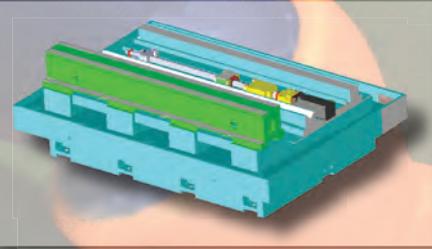
### Minimized set-ups

The new interactive operator interface **"Tool Operator Package"** installed to the machine control system, simplifies the part-program creation process, making any adjustments that need to be made easier and more accessible. Moreover, all the accessories of the series (post-process, vibration sensors, self-centering rests, automation) are directly managed by the interface.

### The new Crossflex series

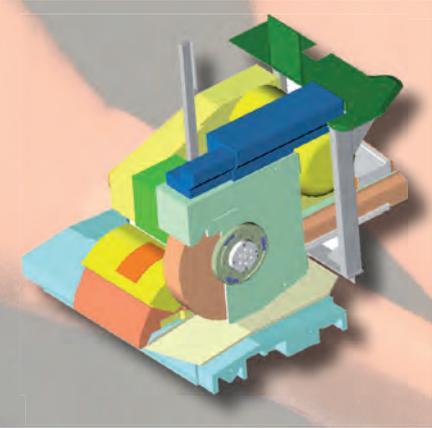
To limit consumptions means to achieve eco-sustainability or, simply put, to safeguard the environment. With the **ENERGY SAVING** system to lower electrical energy consumptions, all you have to do is "press a button". But replacing a filter at the right moment is also important, and with the **Maintenance Operator Package**, it's easier. This is the new driving concept behind the **Crossflex** series.





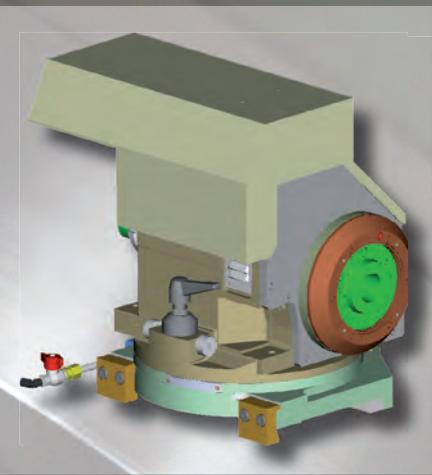
#### MACHINE BED

The new **Crossflex A** features a single structure in stabilized iron casting, widely ribbed, and fitted with peripheral channels for collecting the coolant. Designed relying on cutting-edge 3D technology for parametric solid modeling, verified through FEM analysis, this structure perfectly dampens temperature fluctuations and vibrations resulting from the grinding process, ensuring excellent dimensional quality of ground pieces.



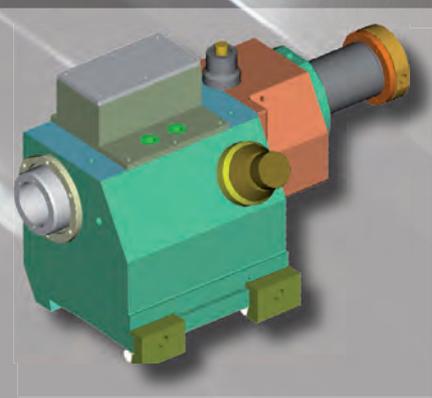
#### "X" AND "Z" AXIS WHEEL HOLDER

The **Crossflex A** new grinding wheel carriage slides on high precision prismatic-plane guides with interposed anti-friction material preventing stick-slip and offering a high dynamic efficiency of the grinding machine. The cross guides, a transversal "X" axis and a longitudinal "Z" axis, allow to minimize the overall floor space and to rationalize the layout of the hydraulic and electric systems. The guides slide thanks to high precision recirculating ball screws connected directly to the AC brushless motor with digital adjustment. The wheel holder head for external grinding can be positioned from  $-5^{\circ}$  to  $+26^{\circ}34'$  in the manual and automatic modes or through the B Axis. Axis positions are constantly monitored by an absolute linear measurement system, fitted with a pressurization unit, with a double guide protection: bellows and telescopic type.



#### WORKHEAD

The universal workhead of the new **Crossflex A** is perfect for overhung grinding and between centers, with fixed and rotary spindle. The new workhead is made of high precision bearings ensuring top precision with roundness error below 0.001 mm, and lies on a swiveling base, with a micrometric adjustment device. The continuous speed variation is controlled by a digital adjustment AC Brushless motor, while a pneumatic system eases the movements during machine set-up. It is as well possible to fit a workhead featuring a **C Axis** for machining threads and non-round parts, such as cams, eccentrics, regular polygons, and customized shapes.



#### TAILSTOCK

The tailstock of the new **Crossflex A** is driven hydraulically. It is equipped with a safety device controlling clamping between centers and axial load adjustment. It also features a device for workpiece cylindricity micrometric adjustment, which is built in the tailstock, together with a pneumatic system, which helps tailstock movement on machine set-up.

As an option, at the working table can be added a **W Axis** module with variable length, which allows for the fast adjustment of the length of the part to be ground, thus minimizing set-up times.

## THE UNITS

## ELECTRIC MOTORS

The new **Crossflex A**, designed to ensure high productivity and flexibility, is the best solution for fully grinding the main mechanical components of electric motors.

The new **Crossflex A** grinds the external cylindrical diameters of electric motors with absolute precision.



## MOLDS

The new **Crossflex A**, designed to satisfy the needs of the large industry, is perfect for grinding full batches of dies coming from the mold industry and from the general engineering sectors.

The new **Crossflex A** grinds the external cylindrical diameters of molds with absolute precision.



## SHAFTS

The new **Crossflex A**, designed and manufactured relying on the experience and synergy of all designers of the IMT group, is suited for completely grinding drive transmission shafts used in most industrial applications, including the automotive field.

The new **Crossflex A** grinds the external cylindrical diameters of crankshafts and gearbox shafts with absolute precision.



## PUMP GEARS

The new **Crossflex A**, produced according to cutting-edge technologies aimed at improving grinding quality and at reducing the impact on the environment, is perfect for machining high precision parts, such as pump gears, used by most industries (automotive, food, plastic, petrochemical, etc.).

The new **Crossflex A** grinds the external cylindrical diameters of pump gears with absolute precision.



# APPLICATIONS

CROSSFLEX

TACCHELLA



 **IMT GRINDING GROUP**

# TACHELLA EXTERNAL GRINDING MACHINE - CROSSFLEX A 1100 - 1600 - 2100

TECHNICAL SPECIFICATIONS				
CHARACTERISTIC DATA	VERSIONS			Unit
	1100	1600	2100	
Distance between the centers	1100	1600	2100	mm
Max. grindable length	600	1100	1600	mm
Center height	180 (250)*			mm
Max. grindable diameter	300			mm
Max. weight between the centers	150 (250)*			kg
Total installed power, excluding accessories	23			kW
Machine weight, excluding accessories	7400	8400	9400	kg
<b>Wheel Holder Unit for External Diameters</b>				
Grinding wheel on the right, max. diam. x thickness x hole	610 x 100 (150)* x 203,2 (1)			mm
Wheel spindle power	11 ÷ 15			kW
Wheel peripheral speed (standard)	50 ÷ 63			m/s
Wheel holder head positioning system	Manual	Automatic	Aut. B Axis	
Max. allowed angles	0° +26°34'	0° +20°	-5° +26°34'	degrees
<b>"X" Axis</b>				
Max. travel	350			mm
Max. speed	10			m/min
Brushless motor torque	7,9			Nm
Axis resolution	0,0001			mm
<b>"Z" Axis</b>				
Max. travel	750	1250	1750	mm
Max. speed	10			m/min
Brushless motor torque	7,9			Nm
<b>Workhead</b>				
Internal/external fitting taper	M5/ASA5			Morse/Asa
Speed variation	10 ÷ 800			rpm
Spindle torque	38			Nm
<b>Tailstock</b>				
Fitting taper	M4			Morse
Sleeve travel	50 (75)*			mm
Micrometric side adjustment	+/- 0,10			mm
<b>Machine dimensions</b>				
B	2710	3370	3970	mm
C	2150	2200	2200	mm
H	1760			mm

\* Technical Variants.

(1) Hydrodynamic spindle.

# TACCHELLA

## TACCHELLA at a glance

- Our Business: Grinding.
- The Market: leading international manufacturers and high-quality grinding machines.
- The market sections: Vehicles with 4 or 2 wheels, Off-road vehicles and Aviation Industry. Transmissions and Drive Reducers, Machine Tools, Tool Sets, Dressing, Tool Holder.
- The activities: design and manufacture of External cylindrical and high-production grinding machines, Broach grinding machines, Sharpening machines, Universal grinding machines.
- The guidelines: ongoing investments in research, design and development of innovative, patented technologies.
- Our most valuable resources: top performance, cutting-edge solutions always one step ahead of the market to meet **TACCHELLA** Customer's needs.
- Our story: nearly one century of non-stop work in the machine tool field.
- Our location: the 75,000 sq. m plant is in Cassine (AL), in the Italian region home of the major Italian car makers, and 20,000 sq. m of this area are indoors.
- Our workforce: approximately 500 highly qualified and skilled employees, who represent our most valuable asset. Thanks to their expertise and passion, they guarantee the excellent quality of **IMT Grinding Group's** product and services.

The whole production process, from design to final testing takes place in-house and is managed through a comprehensive and capillary IT network (**CAD/CAE - PDM - CAM**).

The high quality level required from our grinding machines is achieved by means of highly efficient, accurate and automated CNC production systems. Strict final tests, duly equipped machining and inspection departments located in air-conditioned areas, are key to the high quality of our products.

The sales offices include approx. 50 sales agencies, which are present all over the world.

**Tacchella** products are the result of the synergies obtained among the designers of the **IMT group**, which always ensure product excellence and best in class technological standards with minimum lead time.

This is why **Tacchella** is a leader of this industry.

**IMT GRINDING GROUP** is the new industrial group that gathered under the same banner into one **Morara, De.Ci.Ma., Tacchella, Meccanodora and Favretto**, in controlled by **PARITEL Corporation**. **PARITEL HOLDING** is an industrial investment company founded in Bologna in 1989.

[paritelspa.it](http://paritelspa.it)



*Metallo in movimento*

# IMT

[www.tacchella.com](http://www.tacchella.com)

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