ICING PLATE

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STRESS-FREE CLAMPING

The ice cube tray solidly stuck in the freezer or frost sticking to the windshields on winter mornings, are examples of the strong adhesive power of ice. This excellent adhesive[1] can link practically any material, whether rigid (metal, plastic, ceramic, graphite...) or flexible (rubber, neoprene, cloth...). It has the additional advantage, when it melts, of being reversible and leaving no residues.

Using these properties we have designed and developed a highly effective clamping system: **GF series icing plates**.

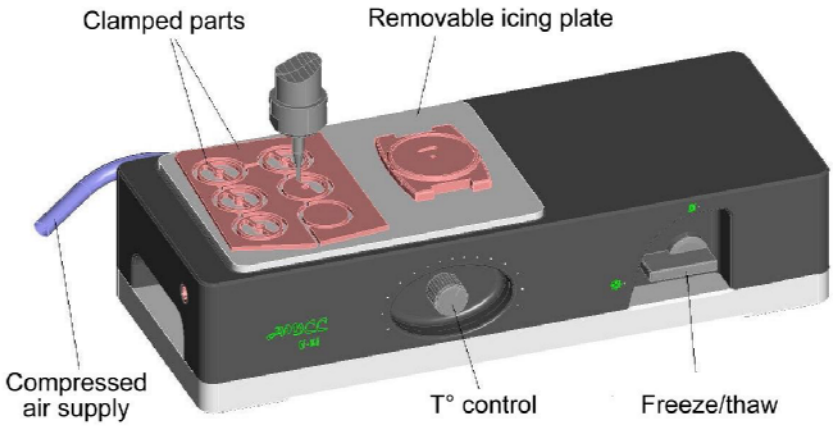
No more costly, specific assemblies. No more distortion and breakage due to clamping or unclamping… Whatever their shape, fragile parts are held firmly in place and without stress!

Plate cooling is achieved by means of a compressed-air heat exchanger[2]. On some of our plates, the assembly is driven by a pneumatic control system[2]. By utilizing the thermal inertia of the icing plate, this control system also saves compressed air. For long machining cycles the air consumption time is half the operating time.

Originally designed to meet the exacting demands in the space industry, the icing plates have since become a necessity in all fields involving the manufacture of delicate parts (medical, electronics, watchmaking, jewelry…).

UTILISATION

The compact and monoblock, **GF** icing plates can be quickly installed:



Connect the apparatus to the compressed air system[3], spray water onto the icing plate and position the part to be machined. Then actuate the temp control button. Within seconds the water freezes and the part is clamped. Unclamping is done just as fast by reversing the freeze/thaw valve.

As there is no water thickness under the part, z-axis repeatability depends only on the referential.

Because the plate evacuates the calories generated by machining, standard lubrication is no longer necessary. Freezing increases the ridigity of a number of materials (plastics, raw ceramics, neoprene,...) thus improving surface condition.

([1]) Tensile strength : ice = ***214* lbs./sq. in.** (15 kg/cm2)
magnetization = *170* lbs./sq. in. (12 kg/cm2) , for vacuum = *14* lbs./sq. in. (1 kg/cm2)
([2]) Patented systems
([3]) Clean, dry compressed air (3.2.2. per AFNOR E 51.301)

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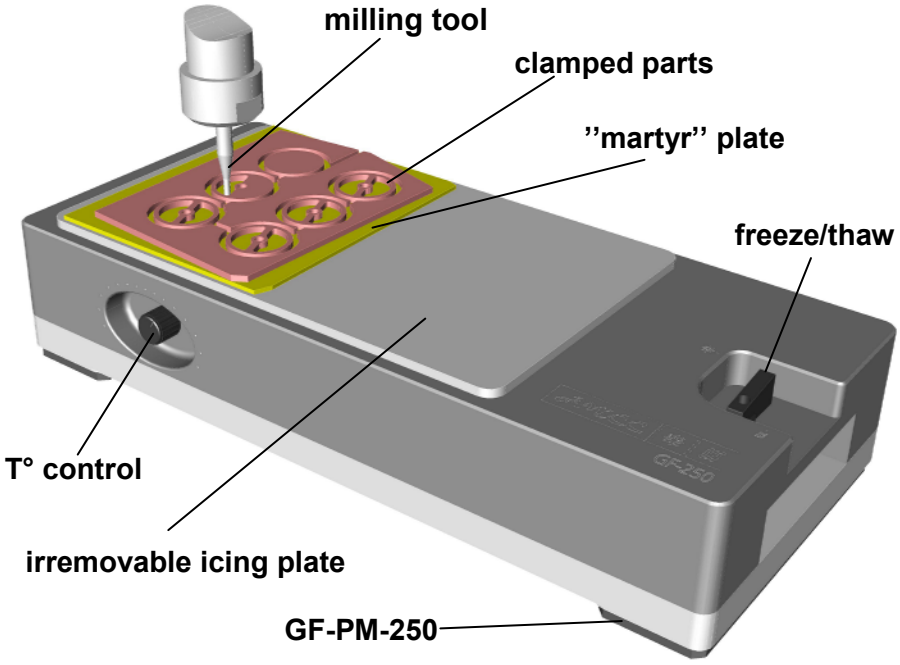
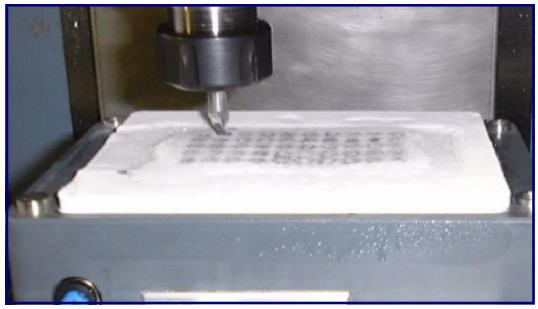
DATA SHEET : GF-250 V10

GF-250 plates are used in milling, grinding and diamond dressing operations. They are equipped with fixed freezing plates.





Fitting a supporting plate between the part and the plate produces a sandwich bound by ice. Since the milling tool emerges full into the material, the part to be machined can be trimmed with no excess vibration or profile chipping.

Our **GF-250** plates are supplied with carrying case, filter, wetting agent, airblast sprayer and pipette.

Optional equipments :

- **GF-PM-250** : 2 steel shims for securing on grinder magnetic plate.

- **GFS-250** : Additional silent

Operation with dry, clean compressed air : *3.2.2. suivant AFNOR E 51.301*

référence	clamping	overall	instant
GF-250	9.84 x 5.90 inch (250 x 150 mm)	14.45 x 6.45 x 2.87 inch (367 x 164 x 73 mm)	29.17 CFM (49.3 m^3/h)

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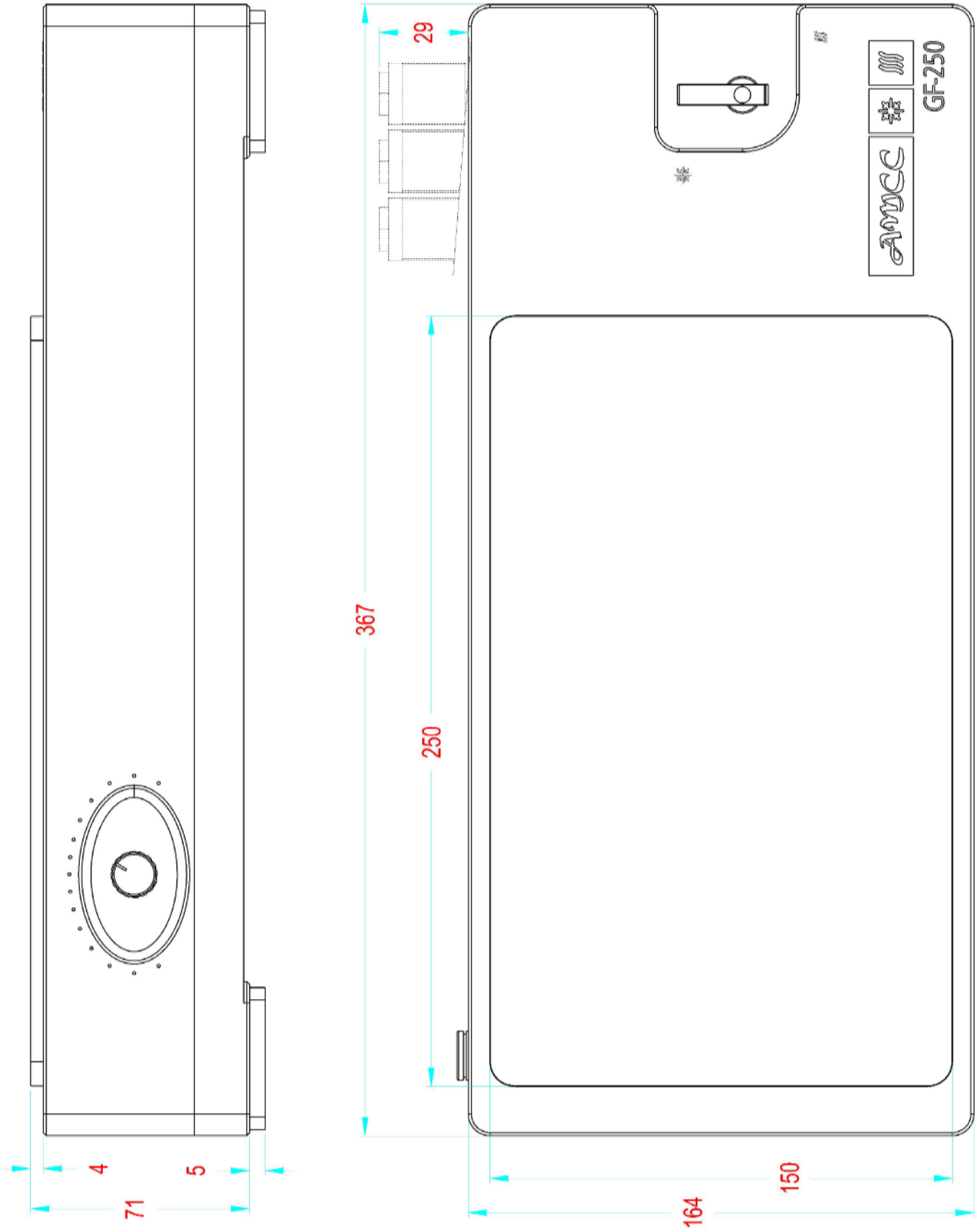
DATA SHEET : GF-250



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