# ICING PLATE GF-150-M

## 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.

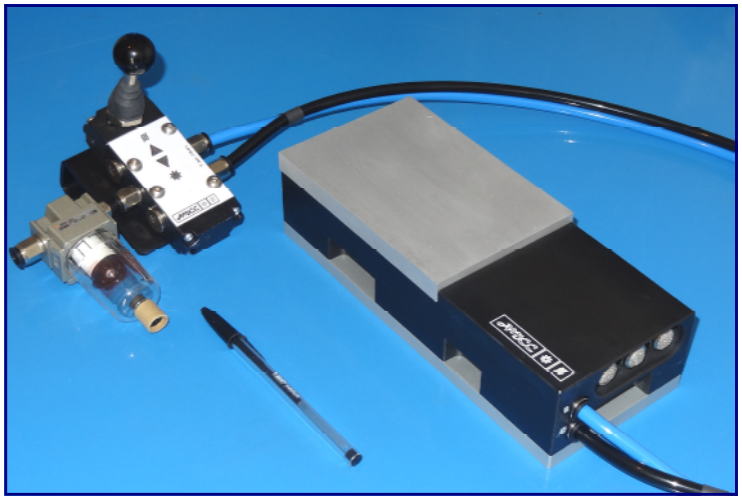
Originally designed to meet the exacting demands in the space industry, the icing plates have since become a necessity in all fields involving the manufacture of delicate parts (medical, electronics, watchmaking, jewelry...).

NEW PRODUCT

## UTILISATION

The compact and monoblock, **GF-150-M** icing plates can be quickly installed:

Connect the filter to the compressed air system[3], spray water onto the icing plate and position the part to be machined. Turn then the pneumatic valve lever on "ice" position. Within seconds the water freezes and the part is clamped. Unclamping, just as fast, is done by moving lever to "thaw" position.



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) , of vacuum = *14* lbs./sq. in. (1 kg/cm2)
([2]) Patented systems
([3]) Clean, dry compressed air (3.2.2. per AFNOR E 51.301) - 7 bars

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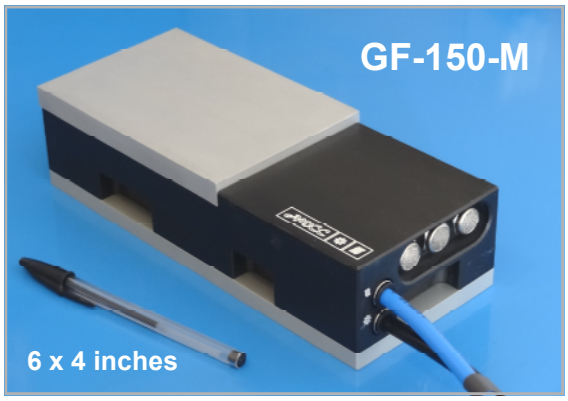
# ICING PLATE GF-150-M

## DATA SHEET : GF-150-M

NEW PRODUCT

**GF-150-M** plates are used in milling, grinding and diamond dressing operations.

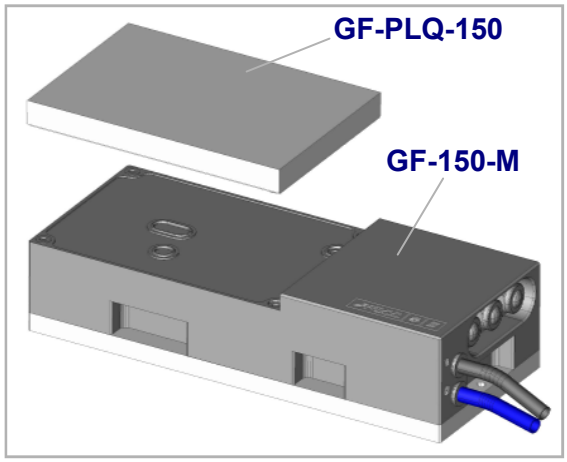
They are equipped with (patented) removable icing plates **GF-PLQ-150** that can be machined as required.
Typically, recesses are bored into the removable plates to position the parts for finishing.
Locating pins can also be used. Like actual tools, these plates can be disassembled and stored after use for further manufacturing operations.



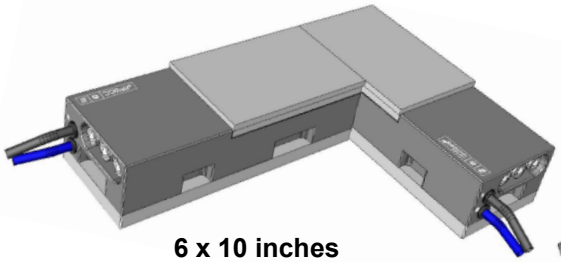

Possibility of controlling automatically freezing and thawing , via the CNC.

Optional equipment :

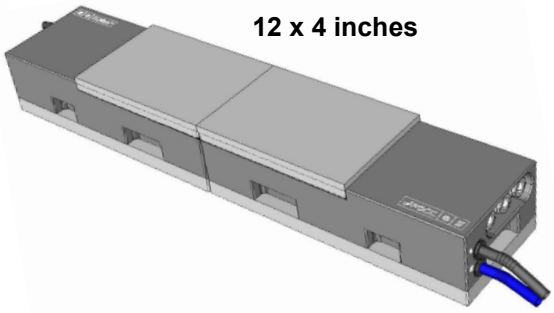
- **GF-PLQ-150** : removable icing plate
- **GF-BPM-150** : steel shim for securing on magnetic grinder plate.



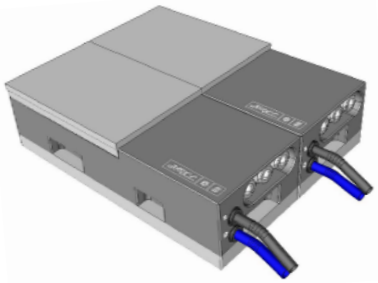

Our Mounting possibilities **GF-150-M**. By using a number of freezing clamping plates in a longitudinal and diagonal direction the work area can be used more efficiently.



**6 x 10 inches**



**12 x 4 inches**



**6 x 8 inches**


Our **GF-150-M** plates are supplied with carrying case, filter, wetting agent and pipette.

| référence | clamping surface | overall dimensions | consumption | pressure |
|---|---|---|---|---|
| **GF-150** | 6 x 4 inches (152 x 102 mm) | 9.8 x 4 x 2.5 inches (250 x 102 x 65 mm) | 10.3 CFM (292 l/mn) | 7 bars (min 6/max 9) |

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

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# ICING PLATES

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## GF-150-M dimensions :

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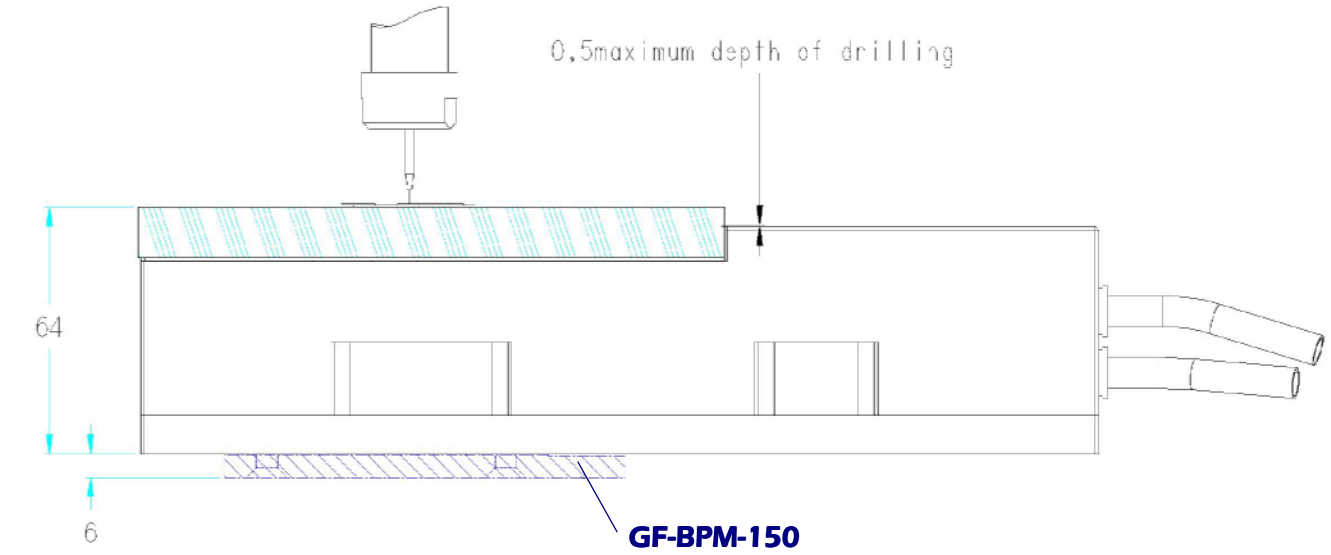
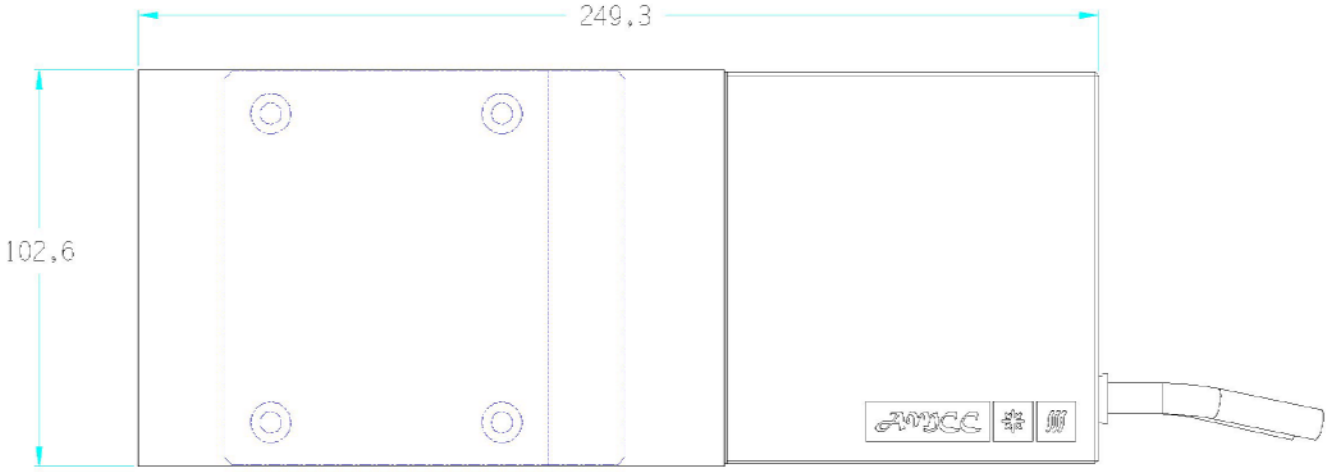



**GF-BPM-150**

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