

AMCC



ICING PLATE for IOLs



Lathing



Milling



Hydrophobic material

STRESS-FREE CLAMPING



"Frost" is an extremely strong adhesive used in many micro-mechanical applications for minuscule parts that are difficult to handle as watch hands for example.

Thanks to this natural property, **AMCC Icing Plates** use it as a clamping system that has many advantages:

- Rigid bonding is achieved with several materials as PMMA, acrylics, silicone, etc...
- Stress-free mechanical clamping.
- Deep cooling enhances cutting surface conditions, more especially for hydrophobic materials.
- No solid residues after deblocking parts.

AMCC GF plates are cooled down by a thermal exchanger¹ with double flux¹, therefore needing only compressed air² to function.

The Icing Plates are user friendly for IOL manufacturing: Spray water on blanks; position blank on the freezing mandrel; in few seconds water will freeze and machining can begin. Deblocking is even easier by reversing air flow from freezing to thawing.

Originally made for being used in workshops for air-space industry these Icing Plates have been shown in areas making fine parts, and more especially in the Intraocular lens industry.

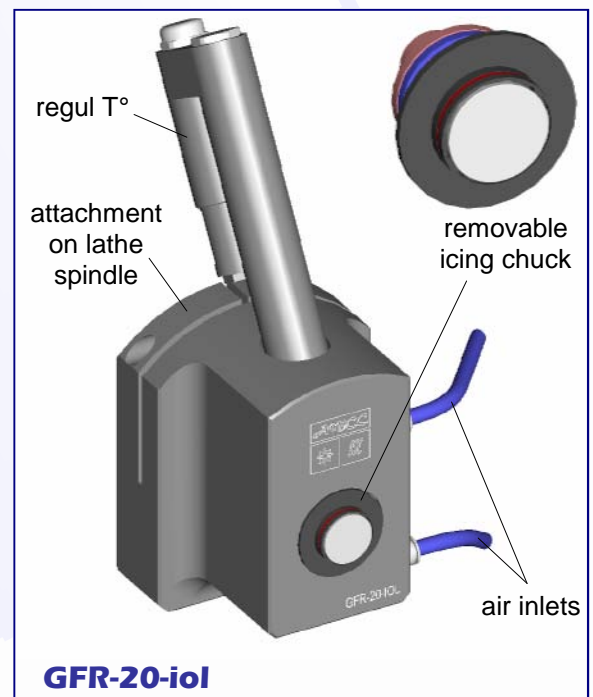
/// * LATHING

Using **GFR-20-IOL** icing plate for lathing perfect rounded blanks is no longer a necessity as any collet is avoided. Thinner blank can be used, leading to a material saving with a deep core freezing and easy repositioning for the next step.

Freezing mandrels **GFR-20-IOL** are interchangeable in order to fit various manufacturing steps. Generally the mandrel used for the first side is flat to fit the blank surface, while mandrels for the second side are machined with a mirror image of the lens profile.



GFR-20-iol mounted on lathe



Thanks to an optional external centering device, positioning of lathed disks can be achieved easily.

As the original "dead length" collet is used underneath the freezing device, shifting to a "classical" manufacturing stays simple.

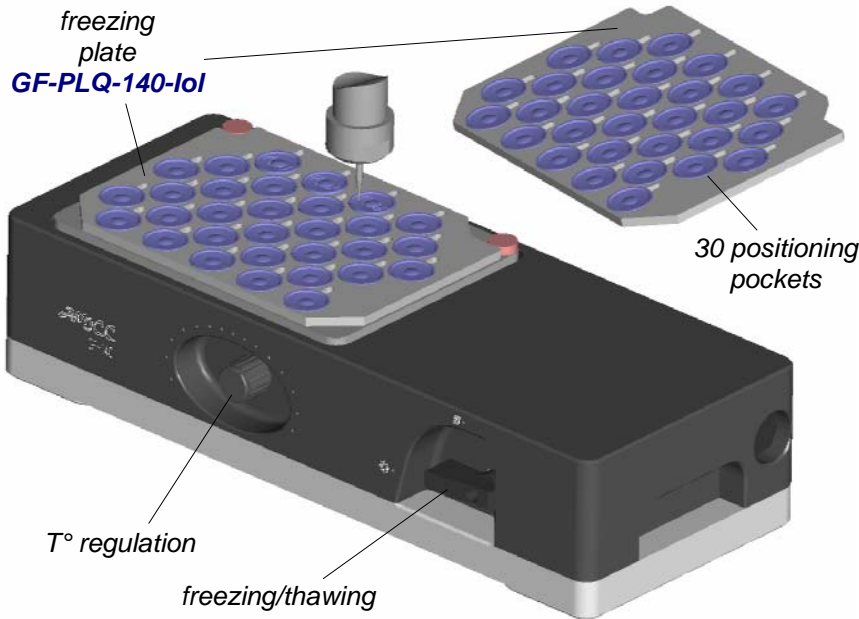
⁽¹⁾ Patented systems

⁽²⁾ Compressed air clean and dry (7 bars, 3.2.2. as per AFNOR E 51.301)

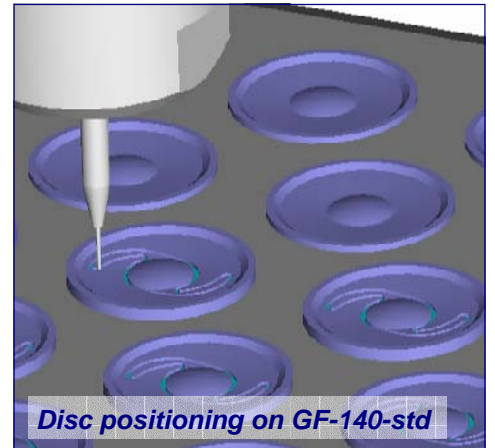
Following the manufacturing sequence choice, the milling step can be accomplished either on the **GF-140** icing plate or on the **GFF-20-Iol** freezing stand (one by one).

GF-140

Each freezing plate **GF-PLQ-140-Iol** incorporates several cell positions allowing milling the IOL through the disk. These plates can either clamp disk after being lathed on one or both surfaces.

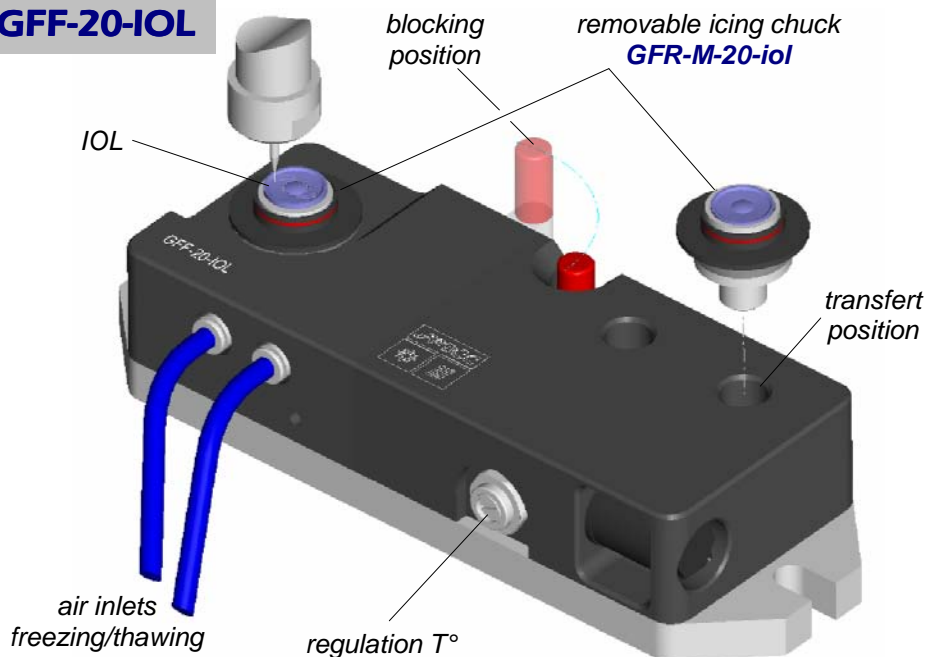


Position repeatability is within 10 microns, the Z positioning is insured by the steel freezing plate of the **GF-140** device.



- Working area: **140x100** mm (outside dimensions: 288x114x68 mm)
- Multi-positioning lens milling
- Removable milling plates incorporating cells

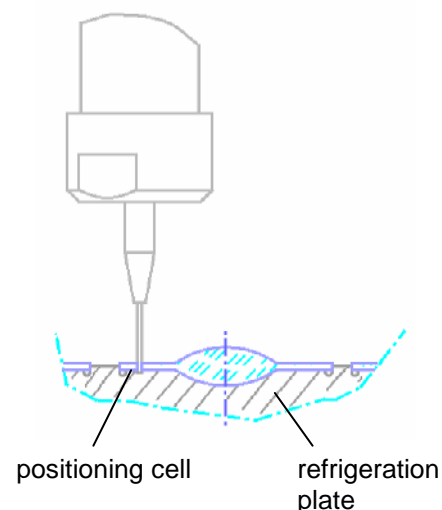
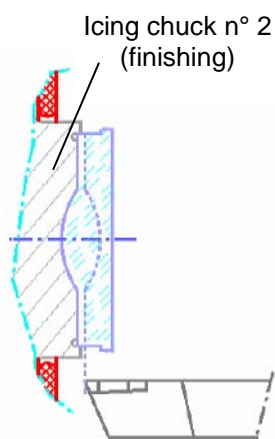
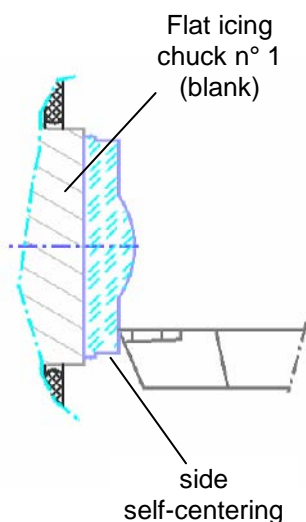
GFF-20-IOL



The **GFF-20-Iol** freezing plate is repeatedly using the lathing Icing chuck **GFR-M-20-Iol**. Thanks to the thermal inertia of the lathing Icing Chucks, blank can stay clamped during loading transfer from lathing to milling.

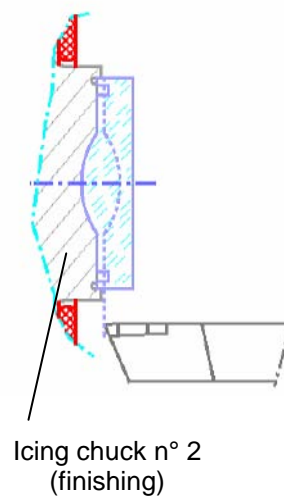
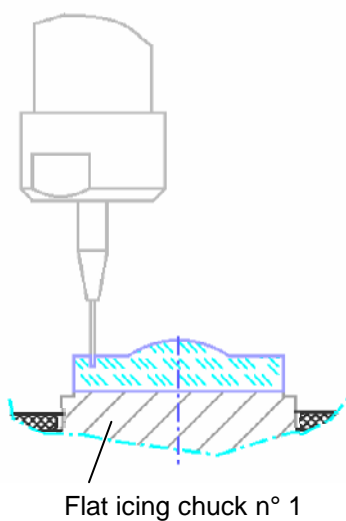
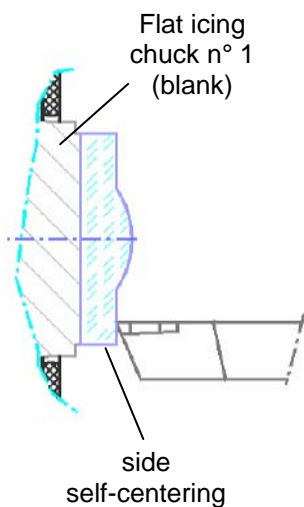
- Working area: **20** mm diameter (Outside dimensions: 245x96x76 mm)
- Often use as a preparation stand allowing freezing in hidden time
- Mostly use as a "one by one" milling stand.
- Allow keeping centering efficiency from lathing

Method : **LATHE - LATHE - MILL**



operation	LATHING	LATHING	MILLING
device	GFR-20-iol	GFR-20-iol	GF-140-std
accessory	GFR-M-20-iol (N°1)	GFR-M-20-iol (N°2)	GF-PLQ-140-IOL

Method : **LATHE - MILL - LATHE**



operation	LATHING	MILLING	LATHING
device	GFR-20-iol	GFF-20-iol/GF-140-std	GFR-20-iol
accessory	GFR-M-20-iol	GFR-M-20-iol /GF-PLQ-140	GFR-M-20-iol (N°2)

As showed above, AMCC icing plates allows high productivity gains while improving IOL manufacturing quality.

We stay at your disposal for any further information, so please do not hesitate to contact us.

AMCC



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