

LASER 4000 5Ax

CLEAN AND FULLY
DIGITIZED PROCESS



GF AgieCharmilles' revolutionary LASER 4000 5Ax allows automotive color and trim studios and product and interior design centers to take differentiation to new and higher levels. The machine makes mastering the most complex textures on even the biggest molds an infinitely repeatable, clean and fully digitized process.

As the largest and most affordable Laser texturing machine on the market, the LASER 4000 5Ax opens new design and differentiation horizons for bumpers, instrument and door panels, central consoles, airbag covers and headlights. Due to the unique new architectural concept of the LASER 4000 5Ax, accuracy is uncompromised by the mold size. Plus, on-board machining strategies ensure that your textures are perfectly rendered over countless iterations. Because the cutting tool is a pulsed laser, texturing with the LASER 4000 5Ax is a clean, sustainable solution: no broken tools, no pollutants. You won't believe your eyes.

Unique machine concept

Extra-large capacity

Yields extreme accuracy

Infinitely repeatable results

A versatile texturing solution

A continuum of Customer Services



EXTRA-LARGE CAPACITY

EXTRA-LARGE CAPACITY HANDLES THE BIGGEST MOLDS

The LASER 4000 5Ax, the biggest laser texturing solution on the market, enables highly accurate texturing of even the largest workpieces. Thanks to the extra-large, 4 x 3 x 1.5 meter capacity of the LASER 4000 5Ax, your distinct textures can easily be applied to oversize molds for end products like truck and auto bumpers, instrument and door panels, central consoles, airbag covers, and headlights, aircraft and luxury yacht interiors, home appliances and big-screen TVs, as well as casting molds and forging tools. It is ideal for design or functional texture patterns.

Technical Data

Laser 4000 5Ax

X, Y, Z travel	mm (in.)	4000 x 3000 x 1500 (157.48 x 118.11 x 59.05)
X, Y, Z axes speed	m/min (in./min)	30 x 30 x 20 (1181.1 x 1181.1 x 787.4)
Acceleration	m/s ² (in./s ²)	2 x 2 x 2 (78,74 x 78,74 x 78,74)
Axis A	speed angle	180°/s 270°
Axis B	speed angle	180°/s 370°
Max. weight on table	kg (lbs.)	18'000 (39683)
Height of working over floor	mm (in.)	150 (5.90)
Max. work piece dimensions (**)	mm (in.)	2500 x 1500 x 900 (98.42 x 59.05 x 35.43)
Machine Dimensions (*)	mm (in.)	8500 x 8900 x 5250 (334.64 x 350.39 x 206.69)

* Width x depth x height

** Width x depth x height (with focal 330)

YIELDS EXTREME ACCURACY



EXTREME ACCURACY, ULTRA-FINE DETAIL

Engineered and built in Switzerland by GF AgieCharmilles — a pioneer in precision machining — the LASER 4000 5Ax expertly textures your workpiece surface with ultra-fine detail at a depth, for example, of 0.3 mm on steel. Moreover, multi-layer textures are easily applied by the LASER 4000 5Ax. Linear scales on all linear axes and rotary axis with precise encoders ensure highest accuracy without sacrificing flexibility. From the texture you conceive to a bitmap image to the finely detailed result on your workpiece, the LASER 4000 5Ax takes texturing of big molds to new levels of precision, speed and repeatability — right before your eyes.

UNIQUE MACHINE CONCEPT FOR GREATEST STABILITY RESULTS

The LASER 4000 5Ax's ingenious new mechanical architecture paves the way to easy and expert texturing of oversize molds. The workpiece rests on the floor, and the machine's tilting fourth and fifth axes flawlessly apply your texture. That stability means highest accuracy is uncompromised regardless of the mold's weight. Moreover, setup time and travel distances are eliminated, effectively reducing flow time. And, because production capacity for your workpiece is compressed into a single machining cell, you save valuable floor space. Further, one operator can quickly texture the workpiece without leaving the cell.



A VERSATILE TEXTURING SOLUTION

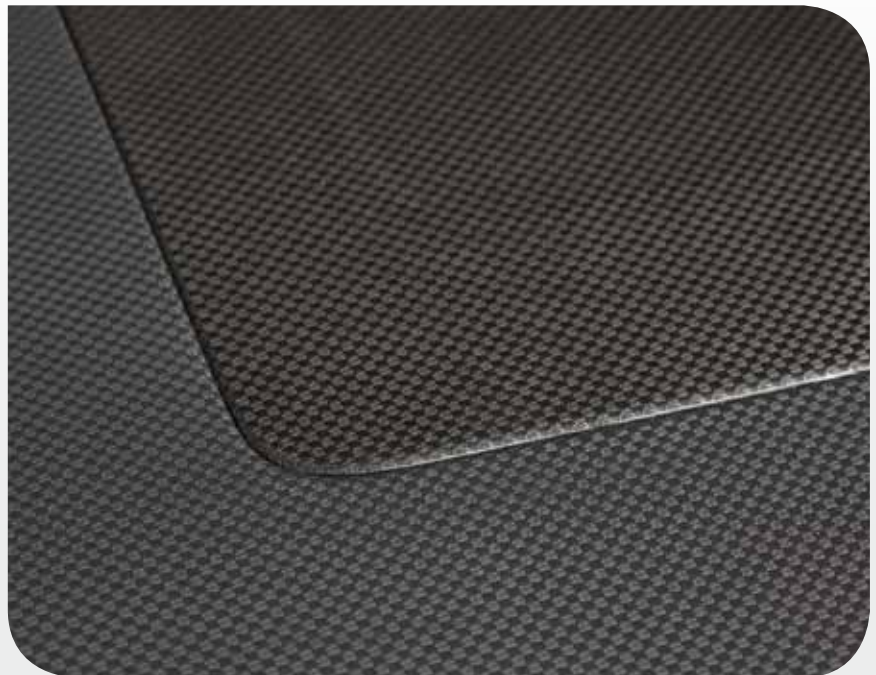
FULLY DIGITIZED PROCESS FOR INFINITE REPEATABILITY

Texturing with the LASER 4000 5Ax begins with a digital bitmap/grayscale file that you have created in Photoshop or derived from a natural surface by reverse engineering via 3D scanner. The included software package, shared with our Laser portfolio, allows you to merge a virtual workpiece with a virtual texture and preview the final design, so guesswork is eliminated and what you see onscreen is what you get. Plus, our smart mapping solution manages random and overlapped texture to yield continuity of your design when it is applied to the end product.

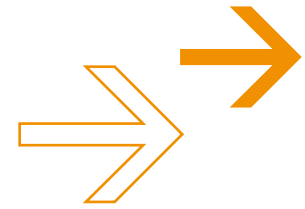
VERSATILITY: LASER MASK REMOVING AND DIRECT TEXTURING

The LASER 4000 5Ax is blazing new trails in direct texturing, and its versatility is extended by its usefulness in the traditional chemical etching process. Because the LASER 4000 5Ax can easily manage multiple layers of texture and is easily and quickly repositionable, it offers distinct advantages for both mask removal as part of the chemical etching process and direct laser texturing.

As a direct laser texturing solution, the machine can remove material in, for example, 10 to 150 layers, related to the texture pattern itself. As an aid of chemical etching, our LASER 4000 5Ax can quickly remove the protective mask on a number of layers impossible to reach today due to manual overlapping of the mask layers. With the LASER 4000 5Ax touch probe, it is possible to precisely locate each layer after the acid etching and apply a new mask on a workpiece.



A CONTINUUM OF CUSTOMER SERVICES



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Productivity, availability of equipment and continuous improvement are essential drivers for your business. Our Customer Services package offers a life cycle of support customizable to your particular needs, which are at the heart of everything we do.

Customer Services provides three levels of support:

- Operations Support offers the complete range of original wear parts and certified consumables including wires, filters, electrodes, resin and many other materials.
- Machine Support includes spare parts, technical support and preventive services.
- Business Support offers business solutions tailored to the customer's specific needs.



At a glance

Achieve more

We commit to a promise.
That promise is "Achieve more".
It's a commitment to create the
right conditions for our customers
to obtain competitive results.
When our customers win, we win.

GF AgieCharmilles

We enable our customers to run their
businesses efficiently and effectively
by offering innovative Milling, EDM,
Laser and Automation solutions.
A comprehensive package of Customer
Services completes our proposition.

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