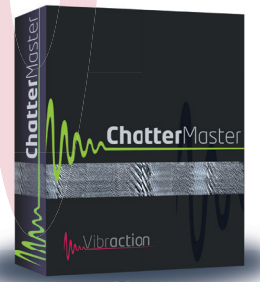


Vibration

Mastering Machining Vibrations

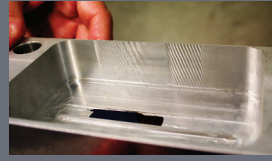
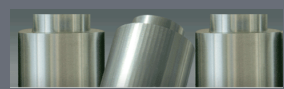
Vibration • 27, rue Galiane - 65000 Tarbes (2nd site on Dijon) - France • email : arnaud@vibration.fr • Phone +33 (0)6 22 96 64 90

Vibration brings you a comprehensive approach, stop « do-it-yourself » !

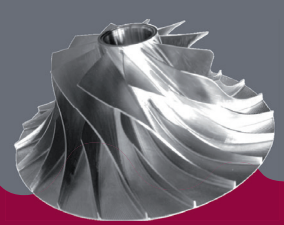


YOUR GOALS :

- Determine problem's root cause



- Increase productivity



Our Services

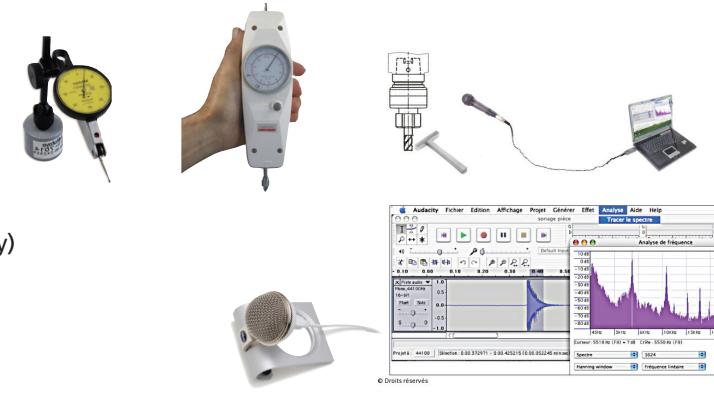
Expertises (possible half-day)

→ Seamlessly.

Trainings

- Simplicity and pedagogy.
- Creates a real dynamic to focus on problem's real source.

Simple measurements and calculations.



« Within few minutes your method found the optimum cutting conditions, while we spent weeks to find them »

« We had this problem during 7 years. Gain : €20,000 / year »

« ChatterMaster brought to our machinists beginners the equivalent of 5 to 10 years of experience about chatter, in only few weeks »

« You made us discover a € 2 million / year source of productivity, in the very heart of our workpiece production »

« You shown us a 50% productivity gain on a workpiece that was not even known as a vibration problem »

« The acquisition of the method resulted the first year in a € 150,000 / year gain »

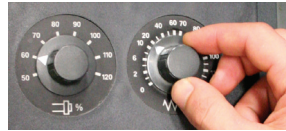
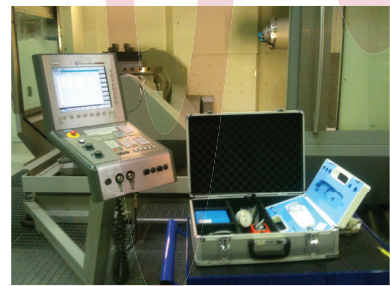
« We have tripled the cutting conditions on an aluminum workpiece, with less vibration than the original process »

Testimonials

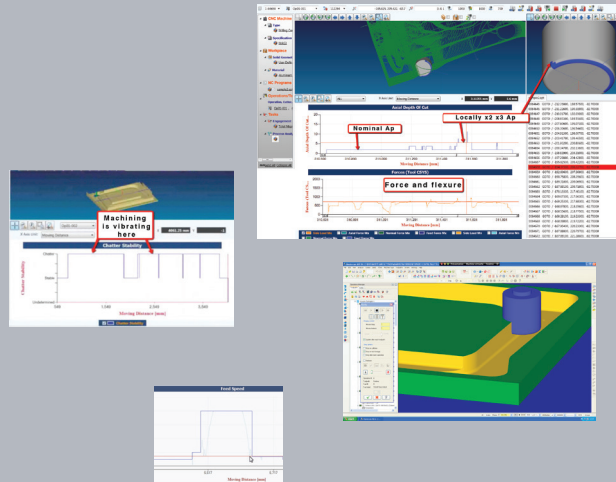


www.vibration.fr

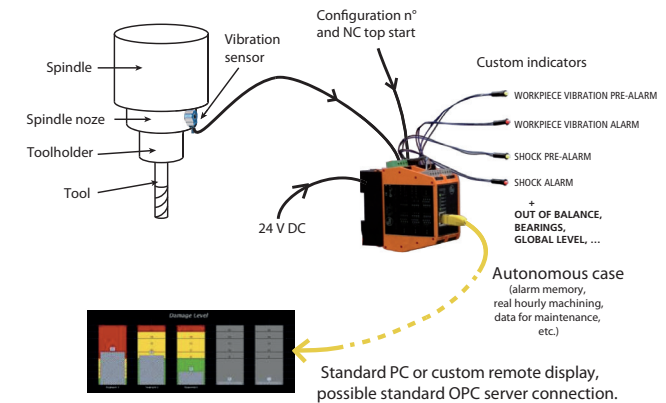
Your method against machining vibrations



Your CAM anticipating flexure and vibration.



Your monitoring system, simple and powerful.



Level 1 : simple, for (all) technicians.

- Learn to **analyze** quickly and objectively any machining situation.
- Learn to determine cutting conditions without vibrations, even before machining.
- Learn to **exploit 100% of the machining system** (with the first two levers of the ChatterMaster method: stiffness, frequency).

On-site training : 1 - 2 days.

Level 2 : global approach, for 1 - 2 - 3 experts.

- Learn to methodically analyze all aspects of machining, even complex ones.
- Learn to exploit 100% of the machining system (with the four levers of the ChatterMaster method: stiffness, frequency, damping, cutting force).
- For each situation, find out which aspect must be improved to increase productivity, and what values the associated parameters must have.

On-site training : 2 - 3 days.

Level 1 : simple, for (all) CAM programmers.

- **Understand** how stiffness, damping, frequency and cutting force interact together.
- Learn to evaluate quickly these parameters.
- **Objectively** identify the critical phases.
- Rationally exploit all opportunities (choice of tools, CAM strategy selection, choice of machining fixture, etc...).
- **Capitalize** stiffness and frequency values for future machinings.

On-site training : 1 - 2 days

Level 2 : global approach, for 1-2-3 experts.

- **Analyze critical programs**, using MACHpro Software. (modeling machine accelerations, cutting forces, tool's flexure or vibrations).
- Learn to **operate the four levers of the ChatterMaster method** (stiffness, frequency, damping, cutting forces).

On-site training : 2 - 3 days.

Level 1 : simple, for machine monitoring.

- **Monitor** (recording alarms) les vibrations et les chocs.
- **Mesure** the real-time machine operation.
- **Optimize maintenance** by repairing only the necessary.
- **Be autonomous** to setup the system (pre-alarm and alarm thresholds alarm, history display, etc.).

On-site training : 1 - 2 days.

Level 2 : advanced approach, for critical machinings.

- **Identifier the exact origin** of vibrations (tool, workpiece, machine axis, spindle).
- Monitor problem's **forecast indicators**.

On-site training : 2 days.