

3.2 Industrial Laser Beam Profiling

3.2.1 Why Monitor the Quality of Your Industrial Laser Beam?

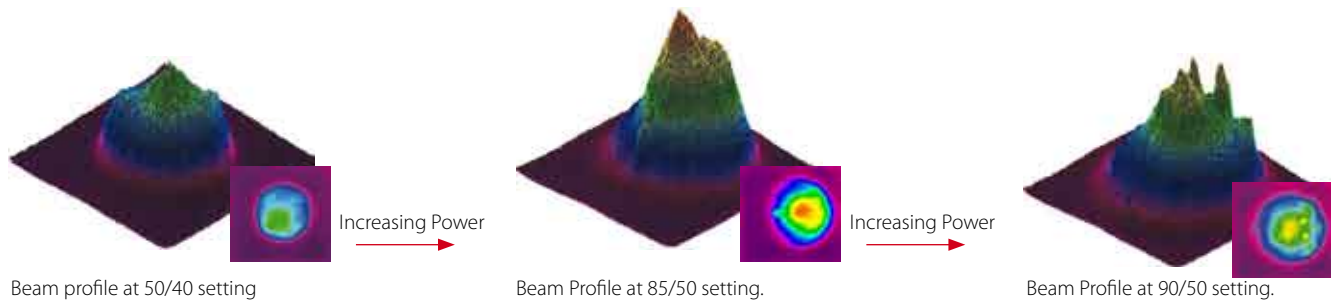
Better control of your laser beam energy profile results in less scrap parts and more profits!

Do you know that your laser beam profile changes over time? And that beam changes can affect the quality of your work? Profiling the beam is the only way to control your process and assure consistent results.

Could you save money by reducing scrap parts? Could you get more business by improving quality? How much could you increase profits by increasing productivity?

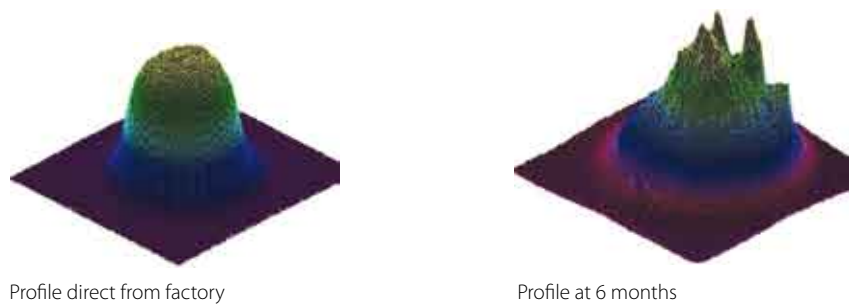
Comments of Shop Foreman:

"When the beam isn't doing the job, we usually turn up the power."

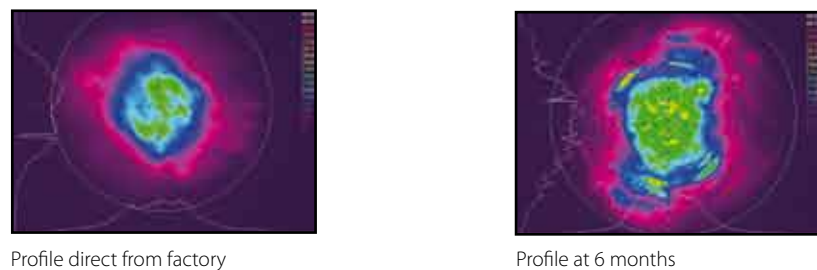


"Well, I'll be. No wonder turning up the power doesn't always work."

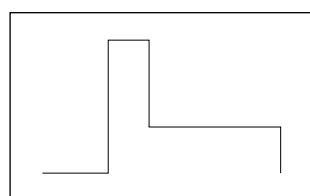
"My YAG laser isn't welding as well as when it was delivered."



"My part does not microweld correctly at higher powers"

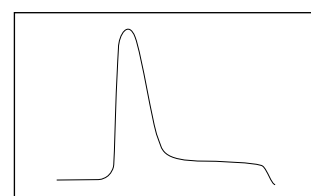


Laser spot size at lower power



Temporal profile of power as programmed

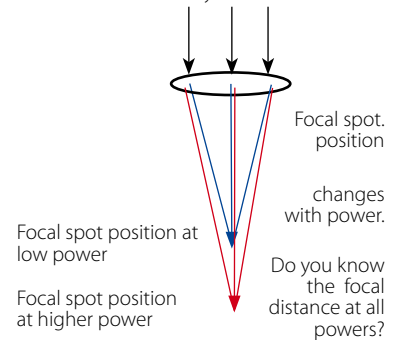
Laser spot size at higher power



Temporal profile in reality

Mode shape changes overtime.

Do you know what your mode looks like today?



The temporal profile is not always what you think it is. You can check this now.



Temporal beam profile as measured by BA500