



STRESSVOYAGER®

ULTRASONIC SHOT PEENING

ULTRASONIC SHOT PEENING WITH STRESSONIC® TECHNOLOGY

Ultrasonic Shot Peening process (USP) uses our core technology - STRESSONIC® - and differs from Conventional Shot Peening by the way the kinetic energy is given to the balls. Instead of using a constant air flow, gravity or a high-speed rotation of a turbine, **USP is using the acceleration of a vibrating surface.** Frequency of vibration is within the Ultrasonic Wave range, which explains the name of the technique

STRESSVOYAGER® - OUR PORTATIVE ULTRASONIC SHOT PEENING SYSTEM

Handheld peening head converts an electrical signal into mechanical energy to throw high quality balls against the part to be treated.

The generator inside the central unit produces an electrical sine wave at ultrasonic frequency. Continuous digital control of the process parameters.



MAIN BENEFITS

Improved fatigue life of your components

- IN SITU treatment of complex parts without disassembling the surrounding elements.
- Does not require masking or bagging.
- STRESSVOYAGER® equipment and STRESSONIC® process are fully compliant to the **BNAE NFL 06 833** and **SAE-AMS 2580-2585** specifications

Roughness - Conventional Shot Peening



Roughness - Ultrasonic Shot Peening



Performances

- Improved life time of your parts and structures
- ALMEN intensities from 4N (F10N) to 10C (F25C)
- Better surface roughness than Conventional Shot Peening
- Fatigue life enhancement of your parts
- Prevents Stress Corrosion Cracking (SCC)
- Perfect for treatment of small areas (ex: bore)
- Reduced consumption of shot media, energy, compressed air
- High quality shot media available with different materials and geometries

Simplicity

- IN SITU treatment
- Shorter treatment cycle by:
 - reducing or eliminating masking and bagging
 - no need for disassembling
 - no need for decontamination

Control

- Adapted tooling and process for different applications (geometry, power and amplitude)
- Real-time control of parameters
- Guaranteed treatment repeatability, possibility to suppress Almen Strip testing
- System ensuring no loss of shot media
- Safe process for the treated part



Portable equipment for in and ex-situ services
(here: helicopter rotor vertical shaft)



Hermetic in-house designed chamber to be specifically adapted to the treatment area

MAINS SPECIFICATIONS

Generator	Technology	Digital
	Frequency	20kHz
Input Voltage	230V	50/60Hz
	115/230V	
	200/230V	
Maximum Power	1000W	
Nominal Standard Power	250 to 400W	
Cooling	Compressed Air	
Compressed Air	Pressure	6bar (90psi)
	Flow Rate	250-300 l/min (8.8-10.6 cfm)
Dimensions (LxWxH)	Central Unit	300x400x675 mm (11.8x15.8x26.6 in.)
	Peening Head	400x80x100 mm (15.5x3x4 in.)
Weight	Central Unit	24.6 to 29.2 kg (54.23 to 64.37 lbs) depending on the Power Supply version
	Peening Head	3 kg (6.61 lbs) - without umbilical
HMI	Touchscreen with ergonomic coloured interface	