



CAVITAR

Schlieren Imaging Solutions

WELCOME TO THE

INVISIBLE WORLD



SEE WHAT YOU HAVE MISSED

Cavitar Schlieren Imaging Solutions

Flow visualization solutions

- Reveal the invisible flow patterns (gases, fluids) in your process by optical methods
- High-quality imaging
- High sensitivity for detection of fine details

High-performance plug-and-play solution

- Suitable for use in Schlieren and shadowgraph imaging
- Optimized to be used with CAVILUX laser illumination systems and/or Cavitar Welding Cameras
- Various solution options based on application
- Front and back illumination available (front illumination enables simultaneous visualization of e.g., melt pool and wire motion and melting)
- Protected compact design with an open test area for studying process phenomena

For visualization of changes in refractive index:

- Temperature gradients (heating processes)
- Phase differences (mixing of liquids, gas flows and evaporation)
- Small particles (efficient light scattering)
- Pressure gradients (shock waves in air or liquid)



	COMPLETE IMAGING SOLUTION*	Z-TYPE SCHLIEREN	LENS SCHLIEREN
Description	Self-contained Schlieren set-up including everything	Plug-and-play pre-aligned Z-type Schlieren imaging system	Plug-and-play pre-aligned Lens Schlieren imaging system
Method of visualization	Mirror or lens based	Mirror based	Lens based
Includes	Everything included <ul style="list-style-type: none">- table frame- optical elements- adjustable mask holder- Schlieren masks- laser illumination and/or welding camera	<ul style="list-style-type: none">- table frame- optical elements- adjustable mask holder- Schlieren masks	<ul style="list-style-type: none">- frame, can be split into two- optical elements- adjustable mask holder- Schlieren masks
Options	<ul style="list-style-type: none">- High-speed camera as an option	<ul style="list-style-type: none">- CAVILUX lasers- Cavitar Welding Cameras- High-speed camera	<ul style="list-style-type: none">- CAVILUX lasers- Cavitar Welding Cameras
Dimensions (LxWxH)**	2.4 x 0.5 x 1.2 m	2.4 x 0.5 x 1.2 m	1.2 x 0.2 x 0.3 m
Test area**	0.5 x 0.5 m	0.5 x 0.5 m	0.2 x 0.4 m
Image field of view	ca. 60...100 mm (depending on lens and camera)	ca. 60...100 mm (depending on lens and camera)	ca. 10...40 mm (depending on lens and camera)

* Working title

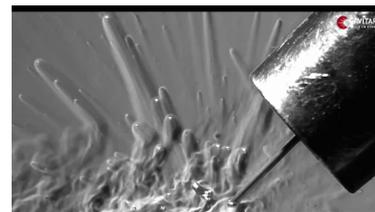
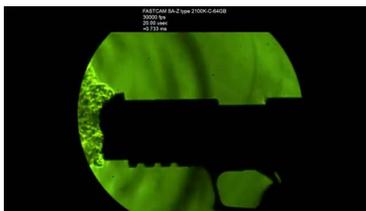
** Might vary depending on realization

For research and development of various applications and processes

- For welding process imaging (shadowgraph also possible)
- For welding research
- Additive manufacturing
- Energy technologies
- Chemical industry (mixing of liquids and gasses)
- Shockwaves
- Ballistics
- Aerospace
- Materials testing

Easy to use

- Comes pre-aligned to customer's specifications
- Can be customized for specific cameras
- Plug-and-play: 1. Install the table legs, 2. Install camera and light source, 3. Start imaging (Z-type)
- Schlieren mask adjustment is possible during imaging
- Different Schlieren masks (also custom masks) are available for emphasizing different flow elements



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