# accuraspray CS

**Great coatings every run**

Cold spray sensor

tecnar

Innovate to differentiate.

# Production-friendly cold spray sensor

Our goal is to help you achieve quality, consistent coatings with every run. To ensure this, spray conditions must be optimal at all times. That's exactly why we created the *Accuraspray CS*, a precise, reliable, easy-to-use and affordable sensor.

The *Accuraspray CS* can measure average particle velocity and relative feed rate. Light is shone onto the spray plume to illuminate particles passing through the measurement volume. These illuminated particles are then characterized (velocity, real-time feed rate) based on the reflected light.




## Work with the industry leader

Tecnar is an industry leader in bringing spray sensors to the shop floor. Every day, over 700 of our sensor heads are at work in over 25 countries around the world. Since the beginning, we have invested heavily in R&D, innovation and in listening to our clients. That's why the thermal spray sensors are the product of our devotion to innovation.

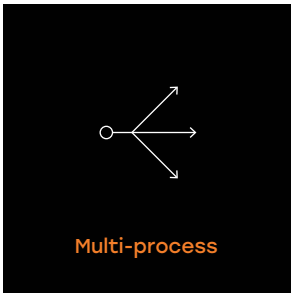
Get the
*Accuraspray CS*
**advantage:**

## Industry 4.0 ready

The Accuraspray CS provides a web-based interface for easy access from any computer, allowing for full 4.0 booth integration via HTTP or external PLC. The unit comes with detailed documentation and free virtual training for self-installation and setup.

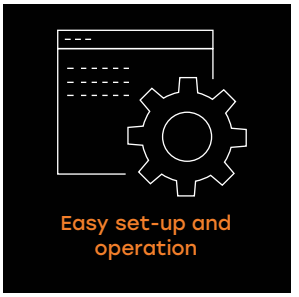

## Calibration-free velocity you can trust

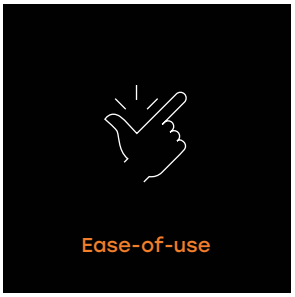
*Accuraspray CS* validates readings with Tecnar's patented technology and requires only one velocity calibration at the factory for lifetime use.


## Works on all spray densities and velocities

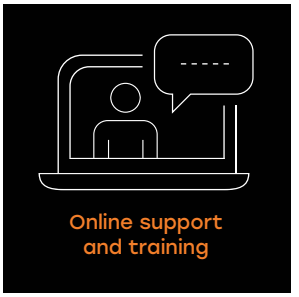
Accuraspray's patented velocity measurement technology works seamlessly for any spray density and velocity, from high-density low-pressure to ultra-high-speed  low-density sprays.




## Just point and measure

*Accuraspray CS*'s technology is extremely simple: a green light illuminates the measuring volume, and self-validated readings are immediately displayed upon starting the process.




## Build your intellectual property on what really counts

- Particle velocity
- Relative feed rate
- Process stability
- Substrate temperature

## The *Accuraspray CS* is used for:

- Quicker spray parameter development
- Easy spray parameter transfer
- Process monitoring
- Quality management
- Predicting gun changes

## See how fast is fast enough

Cold spray is very sensitive to particle velocity. Achieving critical velocity is key to maximizing deposition efficiency and ensuring good coating adhesion. Monitoring the real-time in-flight velocity can help production managers ensure maximize spray time efficiency and coating consistency.

# Technical specifications

| Measurements | |
|---|---|
| Particle velocity range | 5 - 1200 m/s at 2% accuracy |
| Relative feed rate | Normalized a.u. |
| Substrate temperature pyrometer | From 0 to 500 °C |
| Process stability | Automatic instability detection |

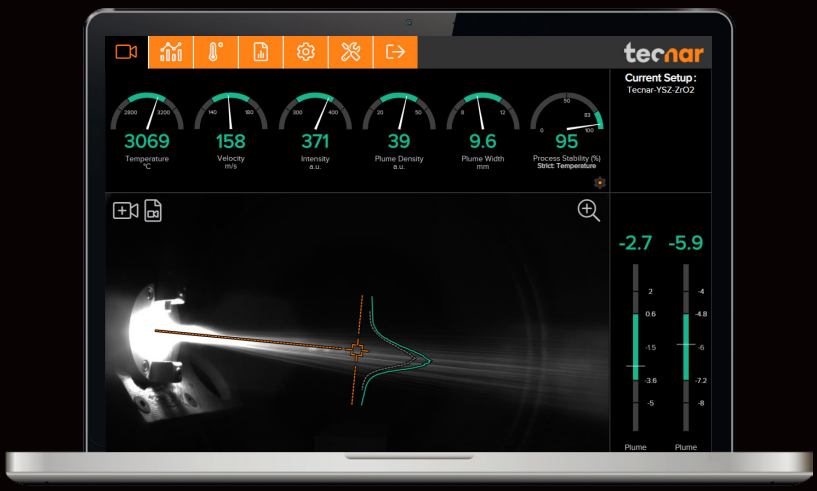
| Measurement volume information | |
|---|---|
| Temperature and velocity measurement volume | Ø3.2 mm x 25 mm = 200 $mm^3$ |
| Working distance | 200 mm |

| Laser characteristics | |
|---|---|
| Laser wavelength | 940 nm |
| Nominal laser power | 20 W |
| Nominal power density | 15.7 $W/cm^2$ |
| Laser type | Class IV |

| Plant supplies | |
|---|---|
| Power requirements | 120 - 240 VAC,<br>50-60 Hz Auto-switch |
| Air supply | 1.35 to 2 bar<br>of clean dry compressed |
| Positioning bracket | Refer to mechanical drawing<br>in manual |

| Dimensions | |
|---|---|
| Sensor head | 205 mm x 149 mm x 62 mm |
| Controller | 400 mm x 400 mm x 200 mm |
| Total weight | 30 kg |

# Engineering user interface




Keep your process within
**its window of tolerance**

## Simplify the operator's daily tasks by offering a straightforward indication of the spray condition.

This is achieved through a colour-coded system:

- Spray conditions nominal
- Preventive maintenance required
- Spray conditions out of range

# earlier insight changes everything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**Learn more**
about the
*Accuraspray CS*

"At PolyCSAM, we use the *Accuraspray CS* for monitoring the in-flight particle's velocity within our Cold Spray Additive Manufacturing process. The sensor has helped us identify changes in the CSAM system, as reflected by particle velocities. The *Accuraspray CS* is very sensitive to changes in the velocity of particles, which has a direct impact on the resultant coating/build-up. In our facility, it's a great addition for process monitoring and quality control."

**Fernanda Caio, Operations Manager**
**PolyCSAM**