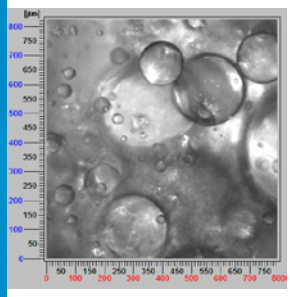
Particle Characterization

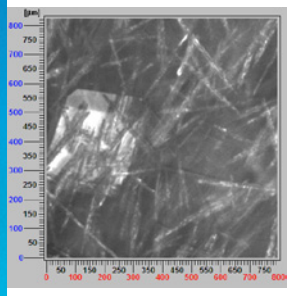
Inline Particle Vision and Measurement

Imaging at Full Process Concentration



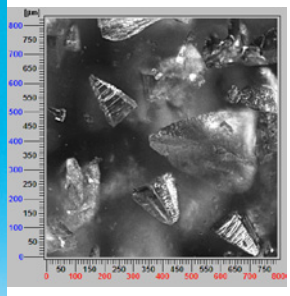
Faster Understanding

Real-time PVM® images provide insight into critical changes in a crystal, particle or droplet process. Events such as precipitation, agglomeration, coalescence or breakage are immediately seen, leading to a faster understanding of the system under investigation.



Identify and Troubleshoot

PVM® images quickly identify changes in particle size, droplet formation, crystal shape and morphology. They enable the detection of process inconsistency and ensure product quality.



High Resolution Images

PVM® provides microscope quality images at full process concentrations, temperatures and pressures. The system is used to characterize particle and droplet systems in real time, without the need for sampling.

Measure Inline at Full Process Conditions

PVM® V825 Ex is designed for dip-pipe or pipeline mounting in ATEX and process environments. The purged enclosure ensures an inherently safe probe.

PVM® V825 Ex

Characterizing and understanding particles as they naturally exist in a process is notoriously difficult due to the challenges of sampling and offline analysis. In a zone-rated hazardous area this can be even more complicated. Particle Vision and Measurement (PVM®) offers immediate insight into crystal, particle, and droplet systems by providing inline microscope quality images, without any need for sampling. PVM® V825 Ex technology provides real-time viewing and recording of particle system images in ATEX and process environments. Chemists and engineers can instantly see changes in particle and droplet systems at full process concentration, temperature, and pressure – leading to detailed understanding of complex particle systems faster than any other method.

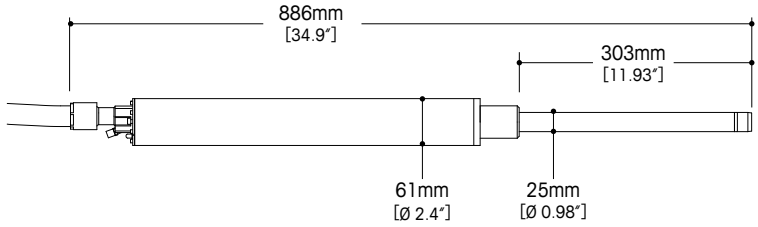
METTLER TOLEDO

Inline Particle Vision and Measurement

Imaging at Full Process Concentration

METTLER TOLEDO PVM® (Particle Vision and Measurement) is the world leader in Process Analytical Technology (PAT) for inline particle characterization across the pharmaceutical, chemical, and petroleum industries.

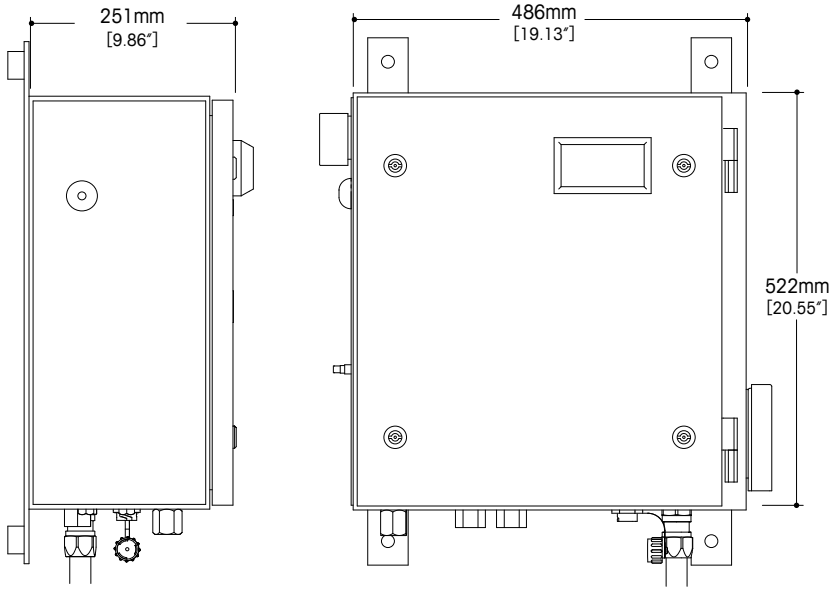
Probe Dimensions



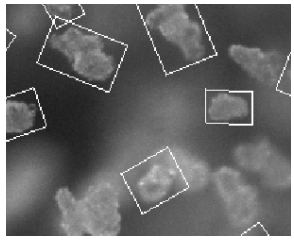
Technical Data

Probe Wetted Materials	Alloy C22, Sapphire, Kalrez O-rings
Probe Tip Diameter	25mm
Probe Wetted Length	303mm
Field of View	1075µm x 825µm
Resolution	2µm
Probe Tip Temp Range	-10°C to 120°C
Probe Tip Operating Pressure	Vacuum to 10 barg, customizable to 150 barg
Conduit Length	10m (32.8ft)
Mounting Options	Flexible Mounting System, Dip-pipe (optional)
Back end materials	Non-wetted probe housing: 316L Stainless Steel, 304 Stainless Steel
Back-end Operating Temp Range	-5°C to +85°C
Field Unit Material	316 Stainless Steel
Field Unit Protection Rating	IP66
Field Unit Temp Range	-20°C to +40°C
Field Unit Humidity Range	0-100% non-condensing
Air Supply Pressure	4 to 8 barg (60-120 psig)
Air Supply Flow	50 NL/min (1.8 SCFM)
Power	230 VAC, 50-60Hz, 0.2A, 21W

Field Unit Dimensions



ATEX Certification	**Field Unit**: Zone 1, 21. **Probe**: Zone 0, 20 (Gas and Dust)
Laser Certification	Class 1



Real-Time Image Analysis

Real-time image analysis software is used to measure particle dimension or aspect ratio, providing quantitative information that increases process understanding and accelerates development and scale-up time lines.

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For more information