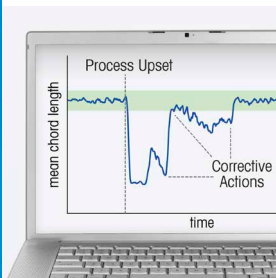


## Track Particles in Real Time Monitor and Improve Processes



### Measure Particle Size and Count

Particle size and count directly impact performance in multiphase processes including crystallization, emulsification and flocculation. By monitoring particle size and count in real time, at full production scales, engineers can monitor process consistency and identify strategies to make significant process improvements.



### Understand without Sampling

Particles can change when sampled and prepared for offline analysis. By tracking changes to size and count, as particles naturally exist in process, engineers obtain process understanding at full production scales, safely and with no time delay – even at extremes of temperature and pressure.



### Improve Processes Confidently

By monitoring particles continuously, as operating conditions vary, it is possible to determine the root cause of poorly performing processes. Operators can identify process upsets quickly and engineers can utilize evidence obtained at full production scale to redesign challenging processes and make improvements.



### Installation in Hazardous Areas

A flexible mounting system allows probes to be installed in reactors or pipelines using standard flanges, dip pipes and ball valves across a wide range of temperatures and pressures. Optional purged enclosures rated to ATEX and Class I, Div 1 standards ensure instruments can be installed safely in hazardous locations.



### ParticleTrack™ G600 and G600Ex R, T, P and X versions

ParticleTrack G600 and G600Ex with FBRM® technology is a rugged probe-based instrument that is inserted directly into large-scale vessels or pipelines to track changing particle size and count in real time at full process concentrations. Particles, particle structures and droplets are monitored continuously, as process parameters vary, allowing engineers to troubleshoot and improve processes effectively.

# Track Particles in Real Time

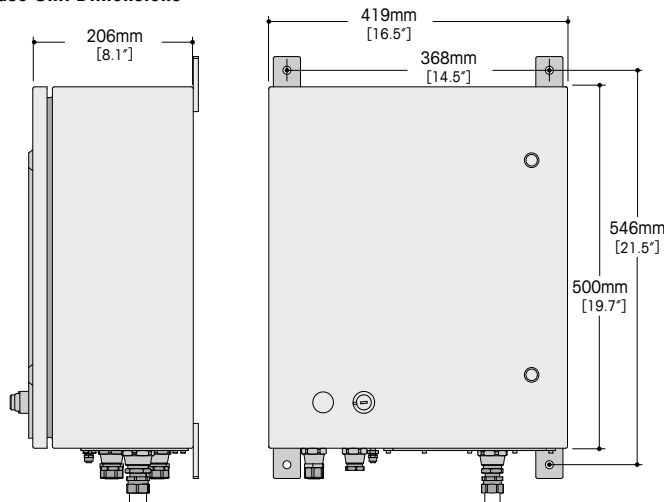
## Monitor and Improve Processes

### Technical Data\*

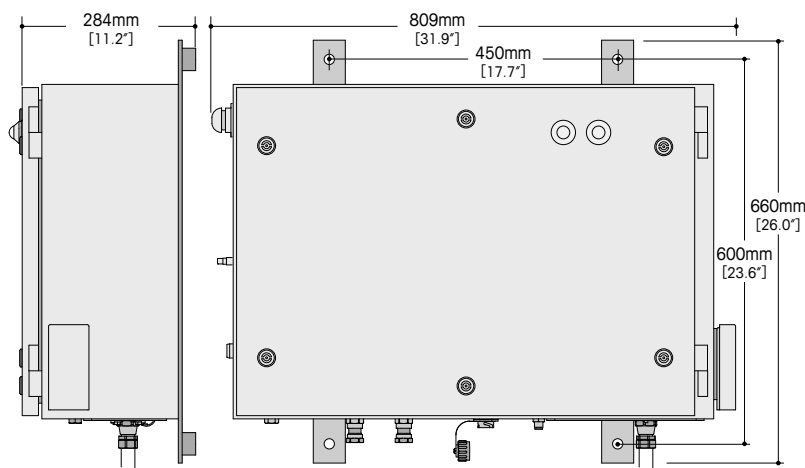
|  |  |
|--|--|
| <b>Method of Measurement</b>               | Focused Beam Reflectance Measurement (FBRM)  |
| <b>Measurement Range</b>                   | 0.5 µm to 2000 µm  |
| <b>Probe Wetted Materials</b>              | Stainless 316 (C22 optional); Sapphire window with Kalrez® 6375 O-rings (TM optional)  |
| <b>Probe Temp Range</b>                    | -10 °C to 120 °C (standard);<br>-80 °C to 150 °C (custom)  |
| <b>Probe Pressure Range</b>                | 10 barg (standard);<br>up to 250 barg (custom)   |
| <b>Probe Conduit Length</b>                | 15 m [49.2 ft] (standard);<br>20 m [65.6 ft] (custom)  |
| <b>Probe Air Supply Requirements (Min)</b> | Pressure: 4 barg [60 psig]<br>Flow: 28.3 SLPM (1.0 SCFM)   |
| <b>Base Unit Temp Range</b>                | G600: 0 °C to 45 °C<br>G600 Ex: 0 °C to 40 °C  |
| <b>Base Unit Description</b>               | Stainless 316, 4X, IP66  |
| <b>Purge Requirements (G600 Ex Only)</b>   | Pressure: 4 barg to 8 barg<br>(60 psig to 120 psig)<br>Flow: 225 SLPM (8.0 SCFM)   |
| <b>Power</b>                               | 100–240VAC, 50/60 Hz, 0.5 A  |
| <b>G600 Certification</b>                  | CE/NRTL Approved, Class 1 Laser Device, Compliant with 21CFR1040.10 and 1040.11 and IEC 60825-1; 4X  |
| <b>G600 Ex Certification</b>               | <p><b>Base Unit:</b> <math>\text{CE}</math> 2460 <math>\text{Ex}</math> II 2 (1) GD<br/>Ex db pxb [op is Ga] IIC T4 Gb<br/>Ex tb pxb [op is Da] IIIC T135°C Db</p> <p><b>Probe:</b> <math>\text{CE}</math> 2460 <math>\text{Ex}</math> II 2/1 GD c<br/>Ex op is IIC T4 Ga<br/>Ex op is IIIC T135°C Da</p> <p>Certified for ATEX and IECEx Zone 1/21; and Class I, Division 1 environments (ATEX: Presafe 16 ATEX 8523x; IECEx: IECEx Pre 16.0048x). CE Approved, Class 1 Laser Device, Compliant with 21CFR1040.10 and 1040.11 and IEC 60825-1; IP66</p> |

\*Technical data applicable to both ParticleTrack G600 and G600 Ex instruments unless otherwise specified.

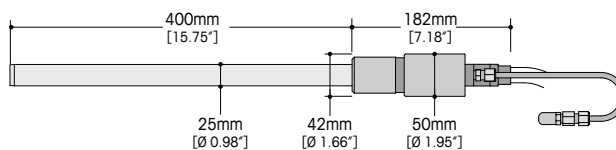
### G600 Base Unit Dimensions



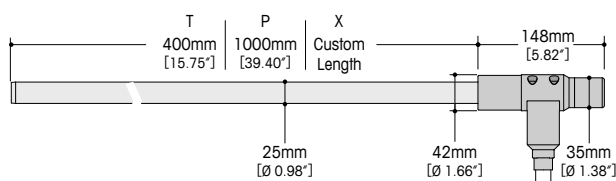
### G600 Ex Base Unit Dimensions



### G600R Probe Dimensions



### G600T/G600P/G600X Probe Dimensions



### Mettler-Toledo AutoChem, Inc.

7075 Samuel Morse Drive  
Columbia, MD 21046  
Phone +1 410 910 8500  
Fax +1 410 910 8600

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For more information