



Learn more!



For further details please ask for the specific product data sheet.



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Product overview  
in-situ metrology

## EpiNet



EpiNet is LayTec's control and analysis software for EpiTT, EpiCurve® TT and Pyro 400 products. EpiNet is all about turning your sensor's in-situ data into profitable information. It lets you visualize wafer measurements, browse through previous runs and explore the rich set of information that is captured during your process. EpiNet gives you the calculation tools you need to extract key figures about your wafers and your epitaxy. In run-to-run control and in statistical process control these key figures allow you to improve your yield and process capacity. In addition, EpiNet enables you to save money with automation. We can integrate EpiNet into your automated fab workflow: from providing simple plain-text files to sophisticated, live SECS / GEM integration – LayTec offers you an end-to-end solution tailored to your requirements.

## EpiTT



EpiTT features emissivity corrected temperature monitoring and a reflectance measurement at two / three wavelengths. Combined with LayTec's unique temperature calibration tool AbsoluT, the EpiTT product family ensures excellent growth temperature accuracy ( $\pm 1$  K) from run-to-run, ring-to-ring and reactor-to-reactor. Easy and accurate calibration with AbsoluT shortens the maintenance time and reduces the cost of ownership. EpiTT reflectance wavelength can be selected to fit the needs of specific customer's material systems. This sensor gives you real-time access to critical process parameters such as growth rate, layer thickness and morphology. EpiTT is essential for any epi yield improvement strategy.

LayTec's EpiTT offers industry-standard metrology for any kind of growth system and is available in different multi-head configurations.

Reflection wavelength (nm)	
1 <sup>st</sup>	2 <sup>nd</sup> or 3 <sup>rd</sup>
950, 1500	360, 405, 488, 633, 950

## EpiCurve® TT



EpiCurve® TT features the full EpiTT functionality combined with a wafer curvature measurement – the key for maximum layer homogeneity especially on wafers of larger diameter.

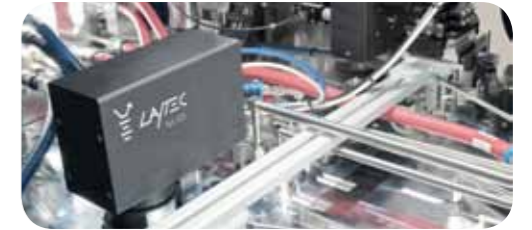
EpiCurve® TT is also available with EpiTTs in multi-head configuration. These systems are compatible with susceptor rotation frequencies ranging from 0 up to 1500 rpm.

The optional AR (Advanced Resolution) function provides information on the wafer curvature along two perpendicular directions: radial and azimuthal asphericity. EpiCurve® TT AR detects epilayer relaxation at an early stage and measures the aspherical bow. This reduces the fluctuations in the main (spherical) bow measurement allowing for precise curvature measurement (e.g.,  $< 0.5 \text{ km}^{-1}$  on planetary reactors).

Laser wavelength (nm)	
405 (blue)	670 (red)

## Pyro 400

LayTec has been the first to commercialize UV pyrometry for temperature in-situ monitoring and control. This UV pyrometer measures precisely the surface temperature of GaN layers grown on IR-transparent materials and substrates (e.g., sapphire). Combined with other LayTec in-situ monitoring systems like EpiCurve® TT, it provides a comprehensive and accurate picture of the growth process.



## AbsoluT

AbsoluT is the ultimate on-site temperature calibration tool and enables maximum temperature accuracy ( $\pm 1$  K) for all EpiTT, EpiCurve® TT and Pyro 400 products. It helps correct all reactor-to-reactor and ring-to-ring temperature variations caused by adjustment and window variations of the growth equipment. A typical calibration takes only 30 min.

Options	
AbsoluT 400	AbsoluT 950



## EpiRAS® TT

EpiRAS® TT is a multipurpose in-situ monitoring system for application during epitaxial growth of cubic semiconductors, such as GaAs, InP, Sb and diluted Nitrides. It combines Spectroscopic Reflectance (SR) and Reflectance Anisotropy / Difference Spectroscopy (called respectively RAS or RDS), as well as Emissivity Corrected Pyrometry measurements (TT option). EpiRAS® TT is designed for in-situ monitoring of growth rates, compositions, doping levels, interface stoichiometry and surface stoichiometry / morphology. Moreover, the TT option offers you also wafer-selective temperature measurements. We have extensive experience with integrating EpiRAS® TT into several different MOCVD and MBE reactors.



## Maintenance, training and service

LayTec has the right service and consulting solutions for every customer – from academic R&D to large-scale production. Our related service portfolio ranges from preventive actions, minimizing the downtime, to in-situ metrology trainings for maximizing the performance of the metrology system.

LayTec's Premium Care Service Packages can be customized to perfectly match the individual needs of every customer.

Service packages				
Standard	Silver	Gold	Platinum	Academia

