

## Comparison of On-Line NIRS for Blend Analysis in Pharmaceutical Manufacturing

Product Specifications	Manufacturer				
	CDI Pharma	Bruker	Zeiss	Thermo	Brimrose
<b>Device Type</b>	Diode Array Non-scanning	Diode Array Non-scanning	Diode Array Non-scanning	MEMS Scanning	AOTF Scanning
<b>Detector</b>	Standard InGaAs & Extended InGaAs T.E. Cooled	Standard InGaAs	Standard InGaAs	Extended InGaAs	Extended InGaAs
<b>Detector # Elements</b>	256, 512, 1024	Not cooled 128	T.E. cooled 256	?	?
<b>Spectral Range</b>	900nm to 1700nm <i>1100nm to 2200nm</i>	900nm to 1700nm	900nm to 1700nm	1350nm to 1800nm	?
<b>Wavelength Resolution (nm/pixel)</b>	3.25 , 1.6, 0.8 <i>4.4, 2.2</i>	6.0	3.0	1.6	?
<b>Auto Calibration</b>	Yes	Yes	No	Yes	No
<b>Battery Powered</b>	Yes	Yes	Yes	Yes	Yes
<b>Wireless Communication</b>	Yes	Yes	Yes	Yes	Yes
<b>Dual Redundant Light Source</b>	Yes	No	No	No	Yes
<b>Software Packages</b>	BlendSpek™ PharmaSpek™, Spec32™	Has Software (no name on spec sheet)	processXplorer	Result, TQ Analyst Method Developer	SNAP!™ PERFTEST (extra)
<b>21CFR Part11 Core</b>	Yes	Yes	Yes	Yes	Yes
<b>IQ/OQ Documents</b>	Yes	Yes	Yes	Yes	Yes (extra)
<b>One Housing</b>	Yes	Yes	No	Yes	Yes
<b>Classification</b>	Class I, Div II, EP	Nema 4X and IP65	?	Nema4X	?