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broad spectra fiber solutions

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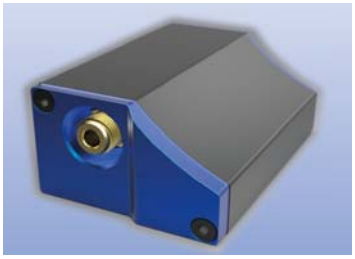
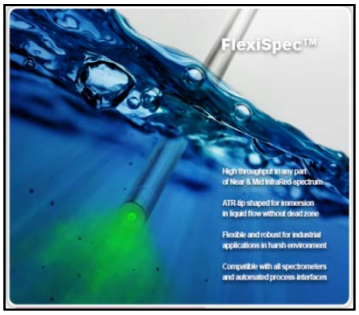
IR-Fiber Sensor based on synergy of MEMS Tunable Filter with Fiber Probe

FlexiSens ® *Powered by* Spectral Engines

FlexiSens ® is based on MEMS-IR-Sensors using innovative tunable Fabry-Perot filters and coupled with IR-fiber probes to enable process control at selected wavelengths in 1.3-10.5µm spectral range

Wavelength ranges	**1.3 - 1.7 µm** **1.6 - 2.0 µm** **1.7 - 2.2 µm**	**3.0-3.7 µm** **3.7-4.5 µm** **8.0-10.5 µm**
Resolution	0.7-1.4 % of wavelength	
Detectors	InGaAs	PbSe, DTGS
Wavelength Settling	< 0.8 ms	
SNR (typical)	3000	1000
Power consumption	< 1 W	
Optical interface	SMA 905	Open space
Wavelength stability	< 0.1 nm /˚C	
Dynamic range	> 15 bits	
Electrical interface	USB2.0 (Others possible)	
Size	50 x 35 x 20 mm^3	
Weight	< 50 g	
Temperature range	+10..+35˚C	





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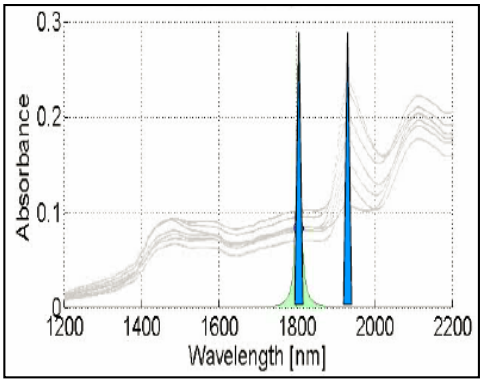
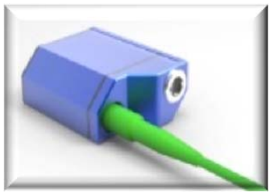
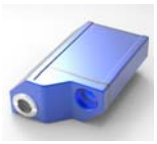
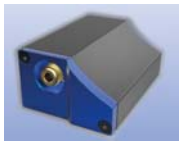
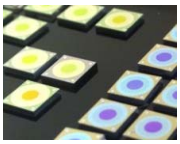
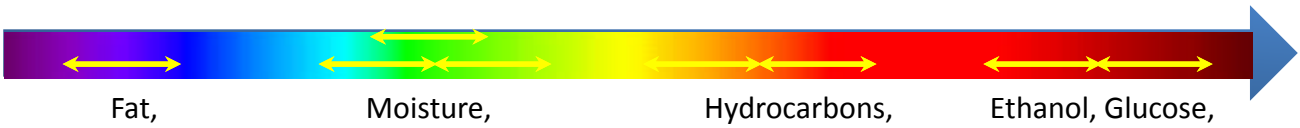
FlexiSens MEMS-Sensors are:

- **Compact and lightweight**
- **Cost effective**
- **Fast with high throughput**
- **Dynamic spectral sampling**
- **Low power consumption**
- **Flexible & robust fiber probes enable industrial applications**

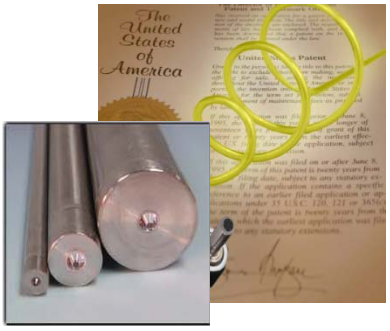




SWNIR	NIR	MIR	LWMIR
			
0.85-1.1	1.3-1.7 1.5-2.0 1.7-2.2	3.0-3.7 3.7-4.5	6.0-8.0 8.0-10.5
Fat, Protein, Moisture,…	Moisture, Polymers, API Ethanol,..	Hydrocarbons, CO2,…	Ethanol, Glucose, Glutamine, org. Acids Ammonium,…



ATR-Probe tip	ZrO	ZrO	Si / Diamond
Transmission	1.7-2.2µm	3.0-3.7µm	8-10.5µm
IR-Fiber type	NIR-Silica	CIR-fiber	PIR-fiber
Temperature °C	-100°/+140°	-40°/+90°	-100°/+140°
Pressure (max)	100 Bar	100 Bar	200 Bar



FlexiSens ®