Respirometer Systems – features comparison

BPC INSTRUMENTS

	Gas Endeavour® III	AMPTS® III	BPC® Blue	BioReactor Simulator (BRS) III
Examples of application areas	in-vitro digestability, bioethanol production, yeast fermentation and many more	Anaerobic fermentation tests in batch mode (e.g. BMP, SMA, RGP, substrate inhibition tests) and biohydrogen potential (dark fermentation)	Aerobic and anaerobic biodegradation in both solid and aqueous media	Continuous biogas production experiments (anaerobic fermentation test in continuous mode)
Software	Embedded software accessed with web browser. No installation needed	Embedded software accessed with web browser. No installation needed	Embedded software accessed with web browser. No installation needed	Embedded software accessed with web browser. No installation needed
Internet access needed	No	No	No	No
Data storage	Locally Up to 130 000 l (30 000 l with 2 ml flow cells) of gas can be stored at once	Locally Up to 130 000 l (30 000 l with 2 ml flow cells) of gas can be stored at once	Locally Up to 130 000 l (30 000 l with 2 ml flow cells) of gas can be stored at once	Locally Up to 130 000 l (30 000 l with 2 ml flow cells) of gas can be stored at once
Experiment guidelines	No	Yes	Yes	Yes
Real-time output data processing	No	No	Yes, e.g. presents % biodegradation in real-time	No
Measurement resolution	2 and 9 ml	9 ml (standard), 2 ml option	2 or 9 ml	9 ml, 2 ml option
Test lines	18 or 9 (Light version)	18 or 9 (Light version)	18 or 9 (Light version)	9
Incubation bottles	250, 500, 1000 (standard) or 2000 ml	500, 1000 (standard) or 2000 ml	500, 1000 (standard) or 2000 ml	2000 ml with ports for feeding and discharging or lab-scale bioreactor in various configurations (optional)
Mixing	Mechanical agitation (standard) or shaking (Animal nutrition)	Mechanical agitation	Mechanical agitation	Mechanical agitation
Gas removal unit	Yes *(ex-situ)*	Yes *(ex-situ)*	Yes *(in-situ)*	No
Operation mode	Batch and continuous	Batch	Batch	Continuous
Maintenance	Easy maintenance. Most parts can be replaced without the need to ship instrument to the manufacture or a regional service center	Easy maintenance. Most parts can be replaced without the need to ship instrument to the manufacture or a regional service center	Easy maintenance. Most parts can be replaced without the need to ship instrument to the manufacture or a regional service center	Easy maintenance. Most parts can be replaced without the need to ship instrument to the manufacture or a regional service center
Gas types that can be measured	Most nonaggressive gases, e.g. biogas, methane, carbon dioxide, nitrogen gas, hydrogen gas, etc...	Most nonaggressive gases, e.g. biogas, methane, carbon dioxide, nitrogen gas, hydrogen gas, etc...	Most nonaggressive gases, e.g. biogas, methane, carbon dioxide, nitrogen gas, hydrogen gas, etc...	Most nonaggressive gases, e.g. biogas, methane, carbon dioxide, nitrogen gas, hydrogen gas, etc...
Gas composition estimation possible	Yes	Yes	No*	No*
Gas collection possible	Yes	Yes	Yes	Yes

*Possible if *ex situ* gas removal is obtained as extra