

2009 SPIROMETRY BUYERS GUIDE

Company information	Futuremed America (818) 830-2500; (800) 222-6780 www.futuremedamerica.com info@futuremedamerica.com		Medical Graphics Corp. (651) 484-4874; (800) 950-5597 www.medgraphics.com info@medgraphics.com		Micro Direct Inc. (207) 786-7808; (800) 588-3381 www.micro-direct.com sales@micro-direct.com		Midmark Corp. (310) 516-6050; (800) 624-8950 www.midmark.com dbull@midmark.com		nDD Medical Technologies (978) 470-0923; (877) 904-0090 www.nddmed.com salesupport@nDDmed.com		nSpire Health Inc. (303) 666-5555; (800) 574-7374 www.nspirehealth.com sales@nspirehealth.com	
Spirometer model/name	Discovery-2	P8000-PowerComboECG-Spirometer	SpiroVision-3+	CPFS/D USB	MicroLab	MicroLoop	SpiroUSB	IQspiro™ digital spirometer	EasyOne	KoKo Legend		
Handheld, desktop, or laptop	Desktop, laptop	Desktop	Handheld, desktop, laptop	Desktop, laptop	Desktop	Handheld	Laptop	Handheld, laptop	Handheld	Desktop		
Warranty/cost	Two years	Two years	One year	One year/\$1,395	Three years parts and labor/\$2,395	Three years parts and labor/\$1,995	Three years parts and labor/\$1,595	One year/\$2,300	Three years/\$1,890	One year parts and labor/\$2,195		
Dimensions (H x W x D) in inches	7.8 x 9.4 x 3	15 x 13 x 3.9	6 x 2 x 1.8	3 x 3 x 6	1.37 x 4.72 x 10	4.5 x 3 x 1	1.9 x 2.3 x 3.5	7.75 x 2.5 x 1.75	3.3 x 6.2 x 1.7	9.25 x 10 x 2.75		
Weight (computer excluded)	2.6 lb.	8.8 lb.	2.8 oz.	1.25 lb.	1.5 lbs.	6.75 oz.	4 oz. (flow head only)	9 oz. USB version	9 oz.	3.6 lb.		
Display	Backlit color LCD	Backlit LCD	Real time, on VGA or laptop monitor	Computer	Color touchscreen	Color touchscreen	Laptop or computer	Computer display	64 x 160	Touchscreenhigh-resolutioncolorLCD 320 x 240 pixels		
Power source(s)	AC/DC, rechargeable NiMH battery	AC/DC (rechargeable lead acid)	PC	USB	AC, rechargeable NiMH battery	AC, rechargeable lithium polymer battery	Laptop or computer	Two AA batteries (serial); no batteries required with USB version	Two AA batteries	Rechargeable battery/AC		
Measurement method	Turbine (rotating vane)	Fleisch	Turbine (rotating vane)	Pitot tube, pneuematich	Turbine (rotating vane)	Turbine (rotating vane)	Turbine (rotating vane)	Fleisch, pneuematich	Ultrasonic	Variable orifice		
Calibration syringe (3.0 L)/cost	Yes	Yes	Yes	Yes/\$483	No	No	No	Yes	Yes/\$325	Yes/\$365		
Incentive monitor	Bubbles pediatric cartoon		Bubbles pediatric incentive	Birthday cake, balloon, and clown	User-selectable(MilkshakeKid, BubbleGumKid,andBigBadWolf)	User-selectable(MilkshakeKid, BubbleGumKid,andBigBadWolf)	User-selectable(MilkshakeKid, BubbleGumKid,Skateboarders, and Big Bad Wolf)	Fiveincentives:candles;treeandleaves; tree,leaves,andmonkeys;tree,leaves, and pinwheels; thermometer	Yes	Twographicincentivessailboat,candles		
Flow sensors												
Permanent	X			X	X	X	X			X		
Disposable/Cost for box of 100		\$300		X				\$270	\$185	\$160		
Reference values												
Predicted normals	NHANESIII,ITS,Knudson,Morris,Bass, ERS,LAM,Cutierrez,Zapletal,andmore	Crapo,Morris,Polgar,Knudson76,ERS, and more	Knudson, NHANES III, ITS, ECCS 83 (ERS93), and other predicted sets		User-selectable, 16 authors	User-selectable, 16 authors	User-selectable, 16 authors	Yes	NHANES III, Knudson, Crapo, Morris, Cherniak, ERS (ECCS), ROCA, Austria, Zapletal, Dockery, Hsu, Polgar	14 sets, including NHANES III, Wang, Crapo, ECSC/ERS		
Default value, adults				NHANES III, more than 30 authors	NHANES III	NHANES III		Crapo	NHANES III	NHANES III		
Default value, pediatrics				Weng, more than 30 authors	NHANES III	NHANES III		Knudson	None	Wang		
Parameters measured												
FVC	X	X	X	X	X	X	X	X	X	X		
FEV ₁ /FEV ₆ with NHANES LLN	X		X	X	X	X	X	X	X	X		
FIVC	X	X	X	X	X	X	X	X	X	X		
Can FIVC be performed separately from FVC?	Yes	Yes	Yes	Yes	No	No	No			No		
Slow VC (SVC, TV, and IC, up to 30 seconds)	X	X	X	X	X	X	X	X	X	X		
MCT (inhalation challenges)	X	X	X	X								
MVV (15 seconds)	X	X	X	X				X	X			
Post-BD comparisons (bronchodilator response)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
FVC quality checks												
BEV	X	X	X	X	X	X	X		X	X		
PEFT	X	X	X						X	X		
Cough	X	X	X	X	X	X	X		X	X		
FET	X	X	X	X	X	X	X		X	X		
EOTV	X	X	X	X					X	X		
dFEV ₁	X	X	X						X	X		
dFVC	X	X	X						X	X		
dPEF	X	X	X						X	X		
Features												
Graphs	Flow-volume; volume-time	Flow-volume; volume-time	Flow-volume; volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time		
Storage capacity	200-pluswithabilitytostoremoreonPC	40	Thousands using PC hard drive	Unlimited	2,000	2,000	Unlimited (based on PC)	Unlimited (based on computer)	Eight	760patients;eightpre,eightpost;6,136 test series		
Database format	Microsoft Access		Proprietary; can be exported to other formats	Microsoft SQL	Microsoft Access, SQL	Microsoft Access, SQL	Microsoft Access, SQL	Proprietary	Microsoft Access	Proprietary;MS-SQLiftransmittedto centralized HDpft database		
Interface/output	USB and serial to PC	Interface for external printer or VGA monitor	USB	USB	USB	USB	USB	Serial, USB	USB	USB		
Printer type/printout width	External; integrated - thermal/4.5 in.	External;integrated-thermal/8.5x11in.	External	External	External; integrated - thermal/4.25 in.	External	External	External	External	External; integrated - thermal/4.5 in.		
Other features	Real-time side-by-side display of F/V andT/Vgraphs;alphanumerickeyboard; softwareincludedforfilearchivingand/or performing tests directly into PC in realtime;optionalpulseoxandairway resistance		Large F/V and T/V graphs in real time andside-by-side;operatorcanaddnew predictednormalsetsormodifyexisting ones;customizable reports, trend graphs, and network compatibility	Optionsfornetworking,computerizedinterpretation,bronchialprovocation,anddatabasequery. Standard;pre-/post-bronchodilator,pediatric incentives,reportdesigner,customizeddisplays, and custom predicted.	Spida 5 PC software and hard plasticcarrycaseincluded;meets 2005ATS/ERSstandards;choiceof disposablemouthpiecesorfilters	Spida 5 PC software and hard plasticcarrycaseincluded;meets 2005ATS/ERSstandards;choiceof disposablemouthpiecesorfilters	Comes with hard plastic carry case, deskstandforflowsensor, andchoiceofdisposablemouthpiecesorfilters;meets2005ATS/ERS standards	Combines digital spirometer with software solutions; fast and easy to capture, interpret, and retrieve patient information	Pediatric incentives	Internal software screens in 11 languages;network-compatibleinterface to EMR/HIS with KoKo PFT software; 10definedandcustomizable reports; performancestandards:ATS/ERS2005, BTS, NIOSH, ACOEM		

Company information	nSpire Health Inc. (303) 666-5555; (800) 574-7374 www.nspirehealth.com sales@nspirehealth.com		QRS Diagnostic (763) 559-8492; (800) 465-8408 www.qrsdiagnostic.com; info@qrsdiagnostic.com		SDI Diagnostics (508) 238-7033; (800) 678-5782 www.sdidiagnostics.com; sales@sdidiagnostics.com			Vitalograph Inc. (913) 888-4221; (800) 255-6626 www.vitalograph.com; vitcs@vitalograph.com		
Spirometer model/name	KoKo PFT	KoKo Trek	SpiroCard	SpirOxCard	Astra200	Astra300	Spirolab II	ALPHA	COPD-6	Spirotrac 6800
Handheld, desktop, or laptop	Laptop	Laptop	Laptop	Laptop	Handheld	Handheld	Desktop	Desktop	Handheld	Laptop
Warranty/cost	One year parts and labor/\$2,495	One year parts and labor/\$1,925	Three years/\$1,995	Three years/\$2,495	Two years/\$1,459	Two years/\$1,799	Two years/\$2,599	One year - renewable up to five years/\$1,950	One year - renewable up to five years/\$120	One year - renewable to five years/\$2,116
Dimensions (H x W x D) in inches	7.1 x 3.9 x 2	7.1 x 3.9 x 2	0.63 x 2.2 x 5.5	1 x 2.2 x 5.5	3.25 x 5.75 x 4	3.25 x 5.75 x 4	2.63 x 12 x 7.75	11.75 x 9.75 x 3	4.5 x 2.5 x 2	6.5 x 6.5 x 6.5
Weight (computer excluded)	0.7 lb.	0.7 lb.	0.12 lb.	0.19 lb.	9 oz.	9 oz.	4 lb.	4 lb. 7 oz.	2 oz.	1 lb. 1 oz. (flow head)
Display	Computer	Computer	PC monitor	PC monitor	Alpha	Alpha	FSTN	Color LCD	LCD	PC
Power source(s)	Computer, USB	Computer USB	PC	PC	Two 1.5VDCalkalineorNiMHbatteries	Two 1.5VDCalkalineorNiMHbatteries	AC 110-120; 15 VDC NiMH	Integrated battery and mains power	AAA batteries	USB port; 9V battery for hygiene fan
Measurement method	Fleisch	Fleisch	Pneumotach	Pneumotach	Turbine (rotating vane)	Turbine (rotating vane)	Turbine (rotating vane)	Fleisch	Stator/rotor	Fleisch, pneumotach
Calibration syringe (3.0 L)/cost	Yes/\$365	Yes/\$365	Yes/\$345	Yes/\$345	Yes/\$325	Yes/\$325	Yes/\$350	Yes/\$509	No	Yes/\$509
Incentive monitor	Fivegraphicincentives:candles,three pigs, brick wall, kite, and sailboat	Fivegraphicincentives:candles,three pigs, brick wall, and sailboat	Adult, pediatric	Adult, pediatric	Four versions in software	Four versions in software	On-screengraphical,alsofourselectable in software			n/a
Flow sensors										
Permanent	X	X						X	X	X
Disposable/ Cost for box of 100 (one-time use)			\$225	\$225	\$145	\$145	\$125			
Reference values										
Predicted normals	28sets,includingNHANESIII,Wang,Polgar,Crapo,Knudson,ECSC,CFEigen-Wang	24sets,includingNHANESIII,Wang,Polgar,Crapo,Knudson,ECSC,CFEigen-Wang	Crapo,Cherniack,Morris,Knudson,Polgar,Hsu,Roberts,Warwick,ECCS/ERS,NHANESIII,Zapletal, Quanjer, Wang	Crapo,Cherniack,Morris,Knudson,Polgar,Hsu,Roberts,Warwick,ECCS/ERS,NHANESIII,Zapletal, Quanjer, Wang	14selectable,includingNHANESIII,Crapo, Knudson	14selectable,includingNHANESIII,Crapo, Knudson	10 selectable authors	NHANES III	NHANES III	Variety available
Default value, adults	NHANES III	NHANES III	NHANES III	NHANES III	Knudson (selectable)	Knudson (selectable)	Knudson	NHANES III	NHANES III	Variesbyethnicgroupselected
Default value, pediatrics	Wang	Wang	NHANES III and Wang	NHANES III and Wang	Polgar (selectable)	Polgar (selectable)	Knudson			Variesbyethnicgroupselected
Parameters measured										
FVC	X	X	X	X	X	X	X	X		X
FEV ₁ /FEV _{0.5} with NHANES LLN	X	X	X	X	X	X	X		X	X
FIVC	X	X	X	X	X	X	X	X		X
Can FIVC be performed separately from FVC?	No	No			No	No	No	No	No	No
Slow VC (SVC, TV, and IC, up to 30 seconds)	X		X	X	X	X	X			X
MCT (inhalation challenges)	X				X	X	X			X
MVV (15 seconds)	X		X	X	X	X	X			X
Post-BDcomparisons(bronchodilatorresponse)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
FVC quality checks										
BEV	X	X	X	X	X	X	X	X		X
PEFT	X	X	X	X	X	X		X		X
Cough	X	X						X	X	X
FET	X	X	X	X	X	X	X	X		X
EOTV	X	X	X	X	X	X	X	X		X
dFEV ₁	X	X			X	X	X	X	X	X
dFVC	X	X	X	X			X	X		X
dPEF	X	X	X	X			X	X		X
Features										
Graphs	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time	Flow-volume, volume-time		Flow-volume, volume-time
Storage capacity	Unlimited:eightpre-andeightpost-per test session	Unlimited:eightpre-andeightpost-per test session	Unlimited	Unlimited	Five per patient session	Five per patient session	Three	Nine		Thousands
Database format	Proprietary; MS-SQL if transmitted to centralized HDpft database	Proprietary	Microsoft SQL	Microsoft SQL	Microsoft Access	Microsoft Access	Microsoft Access	N/a	N/a	Other
Interface/output	USB	USB	PC card, USB	PC card, USB	USB2	USB2	Serial	USB	Output:PDFreportgeneration	USB
Printer type/printout width	External	External	External	External	External - ink/8.5 x 11	External - ink/8.5 x 11	External;integrated-thermal/110mm	External, integrated - thermal	External	External; integrated - thermal
Other features	Allowscomparison tobesthistoricaltest; trendreports;reportdesigner;compatiblewiththemajorityofEMR/HISsystems	UtilizesthesametechologyasKoKoPFT; buthaslimitedfeaturesets:noSVC,MVV, challenge, or conductivity option	ATS/ERS2005;pre-calibratedmouthpiece; lungage;25-plusparameters;12-pluspredictednorms;plainpaperreports;integrates with EMRs	ATS/ERS2005;pre-calibratedmouthpiece; 25-plus parameters;12-plus norms;plain paperreports;integrateswithEMRs;records SpO ₂	BluetoothtoPC,totallyconfigurable;no externalwiring;softwareincluded;tidal breathingflowtriggers;noproprietary paperreports;integrateswithEMRs;records predicted, QC, language, and ethnic correction	Touchscreen;BluetoothtoPC,totallyconfigurable;noexternalwiring;software included;tidalbreathingflowtriggers; noproprietarydisposables;selectable interpretation,predicted,QC,language, and ethnic correction	Full-function keyboard; large FSTN screen; eight-test montage; software included;selectableinterpretation,predicted,ethniccorrection;tidalbreathing flow triggers	Next-generationsoftware;completewithdurablecarryingcase; PDF report generation	Obstructive Index and COPD classificationzones;instantindicationoflungage;designedformultipatientusewithSafeTway [™] mouthpieces	Adaptable, interactive, user-friendlysoftwarewithfullautomation;network-ready;standardizeddatabasecommunications; automaticlogofaccuracychecks and calibration update; PDF report generation