

# CuffLink

## Non-Invasive Blood Pressure Simulator

### Technical Data



The CuffLink Non-Invasive Blood Pressure (NIBP) Analyzer offers a quick, reliable, and consistent way to evaluate the operation and performance of oscillometric NIBP signals.

With user-programmable selections, the CuffLink will simulate the full range or normal, hypertensive, and hypotensive dynamic NIBP waveforms representing typical adult, infant, and neonatal patients. The analyzer can also generate normal, bradycardia, and tachycardia rhythm selections with a wide range of weak, normal, and strong peripheral pulses. A variety of parameters allow creation and storage of five custom autosequences within the unit. In addition to the programmable blood-pressure target values, these autosequences can include static pressure, leak, and over-pressure relief valve “pop-off” tests.

CuffLink features an internal compressor, automating the static pressure measurements, leak testing, and relief-valve testing. Setting and adjusting cuff pressure levels is easy and provides consistent cuff-inflation levels for the tests.

### Key features

- Dynamic oscillometric non-invasive blood-pressure simulation
- Automated static-pressure measurements, leakage testing, and relief-valve testing
- Five automated NIBP testing autosequences
- Five arrhythmia selections
- Adult and neonatal NIBP selections
- Adjustable heart rate values
- Direct interface with medTester 5000C

## Specifications

<b>Power</b>	120/250 V ac, 50 W average, 100 W peak, 50/60 Hz
<b>Analog outputs</b>	
<b>Cuff pressure</b>	0 mmHg to 499.95 mmHg FS $\pm 1\%$ of reading, 10 mV/mmHg
<b>Pulse pressure</b>	0 mmHg to 5 mmHg FS $\pm 1\%$ of reading, 1 V/mmHg
<b>Digital manometer</b>	
<b>Pressure</b>	499.75 mmHg (maximum)
<b>Measurement parameters</b>	Instantaneous and peak
<b>Displayed graphics</b>	
Dynamic real-time NIBP cuff-pressure waveform programmed peripheral pulse and envelope waveforms	
<b>Display</b>	
Alphanumeric graphic display (LCD)	
<b>Alphanumeric mode</b>	8 lines x 40 characters
<b>Graphics mode</b>	64 vertical x 240 horizontal dot matrix, backlight with viewing angle adjustment
<b>Digital interfaces</b>	
<b>RS-232/Serial</b>	Bidirectional; downloads cuff measurement data and controls test features with a compatible computer or via the medTester 5000C with the medCheck option.
<b>Parallel printer</b>	Centronics compatible
<b>Pulse sync</b>	0 V dc to 5 V dc (TTL)
<b>Cuff mandrel</b>	
<b>Interlocking plastic blocks</b>	Four cuff circumferences, including: 39.5 cm (large adult), 33 cm (adult), 26.6 cm (small adult), and 20 cm (child)
<b>Truncated plastic cylinders</b>	Three neonatal cuff circumferences, including: 14 cm, 10 cm, and 7.6 cm
<b>Pop-off valve testing</b>	
Automatic test for operation of the monitor's relief valve	
<b>Measurement parameters</b>	Instantaneous and peak pressure
<b>Maximum pressure</b>	499.75 mmHg
<b>System leak testing</b>	
<b>Start pressure</b>	499.75 mmHg max
<b>Elapsed time</b>	60 s (fixed)
<b>Leak-rate range</b>	0.25 mmHg/min to 499.75 mmHg/min
<b>Pump</b>	2 liters/minute minimum (free flow)
<b>Accuracy</b>	
<b>Dynamic NIBP Response Repeatability (Systolic/Diastolic/Mean)</b>	$\pm 1\%$ of target value
<b>Cuff pressure</b>	$\pm 1\%$ of reading $\pm 1$ mmHg
<b>Input overpressure limit</b>	$\pm 1500$ mmHg
<b>Autosequences</b>	
	<ul style="list-style-type: none"> <li>Up to five user-programmable sequences to test NIBP monitors with a specific series of CuffLink performance tests, including static pressure test, leak test, and pop-off test</li> <li>Up to eight adult-neonatal-arrhythmia dynamic NIBP selections, each of which can be cycled up to 99 times during the sequence</li> <li>Printable test report</li> </ul>

<b>Displayed real-time parameters</b>	
<b>Instantaneous cuff pressure</b>	0 mmHg to 300 mmHg
<b>Peak cuff pressure</b>	500 mmHg peak
<b>Inflate/deflate time</b>	0.1 s to 999.9 s
<b>Inflate/deflate rate</b>	0.1 mmHg/s to 999.9 mmHg/s
<b>Total measurement time</b>	0 s to 999.9 s max
<b>Selected heart rate</b>	30 BPM, 40 BPM, 60 BPM, 80 BPM, 120 BPM, 160 BPM, 200 BPM, and 240 BPM. Selected systolic/diastolic target values Mean Arterial Pressure (MAP) target value.
<b>Dynamic non-invasive blood pressure</b>	
Simulation of a range of normal, hypertensive and hypotensive dynamic noninvasive blood pressures for typical adult, infant, and neonatal patients. Generation of normal, bradycardia, and tachycardia rhythm selections with a wide range of user-programmable peripheral pulse amplitudes (weak, normal and strong). Compatible with oscillometric NIBP devices.	
<b>Preprogrammed target value selections</b>	Adult systolic/diastolic (MAP) (mmHg): 60/30 (40), 80/50 (62), 100/65 (75), 120/80 (90), 150/100 (115), 200/150 (165), and 255/195 (215)
<b>Neonatal/pediatric systolic/diastolic</b>	Above selections, excluding 255/195 and 200/150
<b>Repeatability</b>	± 1 % of selected target value
<b>Adult arrhythmia selections</b>	<ul style="list-style-type: none"> <li>• Baseline NIBP target value (120/80) (NSR)</li> <li>• Atrial fibrillation (A-Fib)</li> <li>• Premature atrial contraction (PAC)</li> <li>• Premature ventricular contraction (PVC)</li> <li>• Missed beat (MB)</li> <li>• Aberrant sinus conduction (AS)</li> </ul>
<b>Preprogrammed peripheral pulse waveforms</b>	<ul style="list-style-type: none"> <li>• Pulse amplitude at MAP: 2 mmHg (typical adult value)</li> <li>• Pulse volume range: 0 ml to 5.1 ml</li> <li>• Pulse rise time: 80 ms (min)</li> <li>• Heart rates (adult and neonate): 30 BPM, 40 BPM, 60 BPM, 80 BPM, 120 BPM, 160 BPM, 200 BPM, and 240 BPM</li> <li>• Heart-rate accuracy: ± 1 % of selected rate</li> </ul>
<b>Preprogrammable target value shifts</b>	Horizontal axis: Preprogrammed target value selections shifted in 1.0 mmHg steps over a maximum range of ± 300 mmHg to increase or decrease dynamic pressure values Vertical axis: Relative amplitude shifted in 1 % increments over a maximum range from 0 % to 200 % to simulate weak, normal, and strong peripheral pulses
<b>General specifications</b>	
<b>Operating temperature</b>	15 °C to 35 °C (59 °F to 95 °F)
<b>Storage temperature</b>	0 °C to 50 °C (32 °F to 122 °F)
<b>Dimensions (LxWxH)</b>	38.1 cm x 31.75 cm x 12.7 cm (15 in x 12.5 in x 5 in)
<b>Weight</b>	6.82 kg (15 lb)

## Ordering information

### Model numbers/descriptions

#### CuffLink Non-Invasive Blood Pressure Analyzers

**CUFFLINK-US120V** United States, 120 V

**CUFFLINK-AUS230V** Australia, 250 V

**CUFFLINK-DEN230V** Denmark, 250 V

**CUFFLINK-IND230V** India, 250 V

**CUFFLINK-ISR230V** Israel, 250 V

**CUFFLINK-ITAL230V** Italy, 250 V

**CUFFLINK-SHK230V** Shuko, 250 V

**CUFFLINK-SWZ230V** Switzerland, 250 V

**CUFFLINK-UK230V** United Kingdom, 250 V

#### Standard accessories

**9508-0198** Operating Manual

**5215-0269FG** Adult Cuff Mandrel Spacer Block  
(three blocks included)

**5215-0268FG** Adult Cuff Mandrel End Block  
(two blocks included)

**5027-0203FG** External Cuff Mandrel Neonatal

**9513-0260** CuffLink Adapter Kit

**9530-0030FG** Accessory Pouch

#### Optional accessories

**5215-0269FG** Adult Cuff Mandrel Spacer Block (must order three blocks – required to work with the BP Pump 2)

**5215-0268FG** Adult Cuff Mandrel End Block (must order two blocks – required to work with the BP Pump 2)

**5027-0203FG** Neonatal/External Cuff Mandrel (truncated plastic cylinder diameters: 7.6 cm, 10 cm and 14 cm)

**9503-0014FG** Cuff/Hose Adapter (Clippard): Critikon  
Dinamap, MDE, Invivo Research for Adult Cuffs

**9503-0015FG** Cuff/Hose Adapter (Colder): Protocol Systems

**9503-0016FG** Cuff/Hose Adapter (OBAC): HP/Agilent/Philips,  
Alaris 4400

**9503-0017FG** Cuff/Hose Adapter (Luer non-locking male):  
Critikon, Dinamap, MDE, Invivo Research, SpaceLabs Medical  
for Neonatal Cuffs)

**9503-0018FG** Cuff/Hose Adapter (Luer-locking male)

**9503-0019FG** Cuff/Hose Adapter (0.25 in barb)

**9503-0020FG** Cuff/Hose Adapter (0.170 in barb)

**9503-0023FG** Cuff/Hose Adapter (0.25 in barb): IVAC/  
Alaris 4200

**9513-0260** CuffLink Adapter Kit (Complete set of eight cuff/  
hose adapters)

**4920-0003FG** Quick Disconnect Panel Mount Connector  
(Replacement connector for NIBP interface)

**3010-0016** Detachable Cord Set, 250 V/10 A - Australia

**3010-0462** Detachable Cord Set, 250 V/10 A - Denmark

**3010-0465** Detachable Cord Set, 250 V/10 A - Israel

**3010-0018** Detachable Cord Set, 250 V/10 A - Italy

**3010-0463** Detachable Cord Set, 250 V/10 A - Old British/  
India/South Africa

**9530-0066** Multi-Purpose Hard-Sided Watertight Carrying  
Case (contains "pick and pluck" foam). WxDxH: 35.5 cm x  
48.3 cm x 19.7 cm (14 in x 19 in x 7.75 in)

### About Fluke Biomedical

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- NRC Compliant, where required

### Fluke Biomedical.

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1/2010 3156853B D-EN-N

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