

CVC 123

5 Levels

CVC 123 Calibration Verification Controls

LOT

Set: 912316
Level 1: 84113
Level 2: 81519
Level 3: 81618
Level 4: 81718
Level 5: 84213



Exp.: Set: 2011-05
Level 1: 2011-05
Level 2: 2011-05
Level 3: 2011-05
Level 4: 2011-05
Level 5: 2011-05

REF

CVC 123

IVDFor *In Vitro*
Diagnostic
Use

INTENDED USE

RNA Medical® Brand **CVC 123 Calibration Verification Controls** are assayed materials used for confirming the calibration and linearity of blood gas, electrolyte, and metabolite instrumentation for the analytes and analyzers listed on the Expected Values Chart.

PRODUCT DESCRIPTION

CVC 123 is provided in five (5) distinct levels of pH, $p\text{CO}_2$, $p\text{O}_2$, Na^+ , K^+ , Cl^- , Ca^{++} , Mg^{++} , glucose, and lactate covering the significant range of instrument performance. It is packaged in sealed glass ampuls, each containing 2.5 mL of solution. Ampuls are packaged in kits containing four (4) ampuls of each level.

Active Ingredients:

CVC 123 is a buffered solution containing electrolytes, glucose, and lactate. It has been equilibrated with specific levels of CO_2 , O_2 , and N_2 . This product contains no preservatives and no human or biological materials.

STORAGE

The expiration date stated on the CVC 123 packaging is for product stored at 2-8 °C. The product may also be stored at room temperature (up to 25 °C) for nine (9) months, provided the labeled expiration date is not exceeded. Avoid exposure to freezing and temperatures greater than 30 °C.

DIRECTIONS FOR USE

CVC 123 should be brought to a temperature of 20-25 °C before use (see instructions regarding Expected Values). Allow at least four (4) hours for the ampuls to equilibrate to this temperature prior to testing.

It is best to run calibration verification materials in the same manner as patient samples, however, please refer to the Expected Values Chart enclosed and/or any specific instructions for your analyzer regarding the use of aqueous control materials.

For Roche OMNI 1-9 Analyzers: Always test CVC 123 as an aqueous material in the Sample or QC Mode.

Follow the procedures listed below:

1. Perform a two-point calibration on your instrument before beginning the calibration verification procedure.
2. Beginning with Level 1, hold the ampul at the top and bottom (with forefinger and thumb) and shake 15 to 20 times (about 10 seconds) to mix the solution. Tap the ampul to restore the liquid to the bottom of the ampul.
3. Open the ampul by snapping off the tip at the score. Use the Snapper® provided to protect fingers from cuts.
4. Immediately introduce the liquid from the ampul to the analyzer. Use direct aspiration, syringe transfer, or capillary mode techniques.
5. Record the results on the Data Collection and Linearity Worksheet provided for each analyte.
6. Repeat steps 2 through 5 for the remaining ampuls of Level 1 until three (3) replicates are completed (a fourth ampul of each level is provided in case of accidental breakage or obvious sampling error). Test Levels 2, 3, 4, and 5 the same way. Record all values on the worksheets.
7. Calculate the mean value for each test analyte and compare your mean to the range on the Expected Values Chart. If your mean is within the range, circle **Y** at the question **OK?**. If your mean is outside the range, circle **N** and take corrective action.
8. To graph the linearity of your results:
 - a) Using the graph area provided, plot the Test Value (mean) against the Expected Value.
 - b) Connect the plotted points to visualize linearity.

Note: Steps 7 and 8 may be performed on-line as a feature of PeerQC described below.

EXPECTED VALUES

The values for each analyte on the enclosed Expected Values Chart are based on multiple determinations performed on randomly selected samples from each lot. The listing for each instrument represents the expected range and mean value for this range for ampuls that are at 25 °C when tested. (Note: $p\text{O}_2$ values will vary inversely by about one percent (1%) per degree Celsius that the temperature of the ampul varies from 25 °C.)

The Expected Values are provided as a guide in evaluating analyzer performance. Since instrument design and operating conditions may vary, each laboratory should establish its own acceptance criteria.

STATISTICAL SUPPORT

RNA Medical PeerQC™, available at www.RNAMedical.com, features web-based graphing and reporting for its Calibration Verification Controls and is available at no charge to RNA Medical customers. The graphing steps outlined above may be performed on-line as a feature of this service. Please contact RNA Medical or visit our website for information about utilizing PeerQC for this product.

LIMITATIONS

1. CVC 123 is sensitive to many instrument related factors that would affect analytical results. Because it is not a blood-based material, it may not detect certain malfunctions that would affect the testing of blood.
2. This product is intended for use in evaluating the performance of laboratory instruments. It is not for use as a calibration standard and its use should not replace other aspects of a complete quality control program.

RNA Medical is a registered trademark and PeerQC is a service mark of Bionostics, Inc. The products described herein are covered by one or more of the following U.S. Patents and their foreign counterparts: 5,558,985; 5,320,965; 5,304,491; 5,045,529; 5,013,666; 4,945,062.

CVC 123 Calibration Verification Controls

Level 1

LOT 84113

Exp.: 2011-05

Expected Values Chart

Analyzers	pH		pCO ₂ mmHg		pO ₂ mmHg		Na ⁺ mmol/L		K ⁺ mmol/L		Cl ⁻ mmol/L		Ca ⁺⁺ mmol/L		Mg ⁺⁺ mmol/L		Glucose mg/dL		Lactate mmol/L		
	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	
IL																					
1300 Series	6.84	6.81 - 6.87	85	73 - 97	29	14 - 44															
BG3	6.84	6.81 - 6.87	90	78 - 102	24	9 - 39															
BGE	6.84	6.81 - 6.87	90	78 - 102	25	10 - 40	85	80 - 90	11.7	9.2 - 14.2	DNA ³		3.02	2.52 - 3.52							
1600 Series	6.84	6.81 - 6.87	93	81 - 105	26	11 - 41	86	81 - 91	12.2	9.7 - 14.7			2.97	2.47 - 3.47							
Synthesis Series	6.85	6.82 - 6.88	89	77 - 101	19	4 - 34	84	79 - 89	11.8	9.3 - 14.3	67	62 - 72	2.87	2.37 - 3.37			394	344 - 444			
Gem Premier	ORL ²		ORL ²		36	21 - 51	ORL ²		ORL ²				3.47	2.97 - 3.97							
Gem Premier 3000	ORL ²		93	81 - 105	37	22 - 52	ORL ²		11.7	9.2 - 14.2			3.19	2.69 - 3.69							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	ORL		95	83 - 107	33	21 - 45															
EasyStat	6.82	6.79 - 6.85	91	79 - 103	30	15 - 45	83	78 - 88	11.1	9.1 - 13.1	64	59 - 69	2.97	2.57 - 3.37							
Nova																					
Stat Profile 1-9	6.89	6.86 - 6.92	88	76 - 100	24	9 - 39	87	82 - 92	11.7	9.2 - 14.2	70	65 - 75	2.91	2.41 - 3.41			444	394 - 494	15.4	11.9 - 18.9	
Stat Profile 10	6.86	6.83 - 6.89	90	78 - 102	22	7 - 37	87	82 - 92	11.9	9.4 - 14.4	70	65 - 75					454	404 - 504	15.4	11.9 - 18.9	
Stat Profile Ultra	6.90	6.87 - 6.93	85	73 - 97	22	7 - 37	87	82 - 92	11.9	9.4 - 14.4	70	65 - 75	2.91	2.41 - 3.41	DNA ³		454	404 - 504	15.4	11.9 - 18.9	
OPTI Medical																					
OPTI CCA	6.92	6.87 - 6.97	89	77 - 101	61	46 - 76	ORL		ORL		74	69 - 79	ORL		ORL		ORL		ORL		
OPTI R	6.90	6.85 - 6.95	91	79 - 103	66	51 - 81	ORL		ORL		ORL		ORL		ORL		ORL		ORL		
OPTI LION	6.86	6.80 - 6.92					ORL		ORL		73	67 - 79	ORL		ORL		ORL		ORL		
Radiometer																					
ABL 3, 30	6.85	6.82 - 6.88	88	76 - 100	31	16 - 46															
ABL 300 Series	6.85	6.82 - 6.88	88	76 - 100	30	15 - 45															
ABL 4	6.84	6.81 - 6.87	88	76 - 100	33	18 - 48			11.4	8.9 - 13.9											
ABL 5	6.84	6.81 - 6.87	90	78 - 102	22	7 - 37															
ABL 50, 500 Series	6.84	6.81 - 6.87	89	77 - 101	37	22 - 52	86	81 - 91	11.3	8.8 - 13.8	65	60 - 70	3.08	2.58 - 3.58							
ABL 600 Series	6.84	6.81 - 6.87	89	77 - 101	37	22 - 52	86	81 - 91	11.3	8.8 - 13.8	65	60 - 70	3.08	2.58 - 3.58			414	364 - 464	14.7	11.2 - 18.2	
ABL 700 Series	6.84	6.81 - 6.87	87	75 - 99	40	25 - 55	86	81 - 91	11.3	8.8 - 13.8	66	61 - 71	3.12	2.62 - 3.62			417	367 - 467	14.7	11.2 - 18.2	
ABL 800 Series	6.84	6.81 - 6.87	87	75 - 99	40	25 - 55	86	81 - 91	11.3	8.8 - 13.8	66	61 - 71	3.12	2.62 - 3.62			417	367 - 467	14.7	11.2 - 18.2	
ICA, KNA 1							85	80 - 90	11.3	8.8 - 13.8			3.00	2.50 - 3.50							
EML Series							86	81 - 91	11.3	8.8 - 13.8	65	60 - 70	3.08	2.58 - 3.58			414	364 - 464	14.7	11.2 - 18.2	
Roche																					
AVL Compact Series	6.83	6.80 - 6.86	89	77 - 101	37	22 - 52															
OMNI 1-9 ¹	6.88	6.85 - 6.91	89	77 - 101	22	7 - 37	87	82 - 92	11.5	9.0 - 14.0	73	68 - 78	2.91	2.41 - 3.41			422	372 - 472	16.0	12.5 - 19.5	
Siemens (Bayer)																					
238	6.84	6.81 - 6.87	100	88 - 112	36	21 - 51															
248	6.85	6.82 - 6.88	100	88 - 112	22	7 - 37															
400 Series	6.78	6.74 - 6.82	102	88 - 116	44	28 - 60	ORL ²		11.0	8.5 - 13.5	ORL ²		2.83	2.33 - 3.33			452	402 - 502			
800 Series	6.85	6.82 - 6.88	93	81 - 105	26	11 - 41	82	77 - 87	11.5	9.0 - 14.0	66	61 - 71	2.94	2.44 - 3.44			444	394 - 494	14.1	10.6 - 17.6	
600 Series	6.84	6.81 - 6.87					84	79 - 89	ORL ²		70	65 - 75	3.22	2.72 - 3.72							
1200 Series	6.85	6.82 - 6.88	97	85 - 109	36	21 - 51	80	75 - 85	11.7	9.2 - 14.2	66	61 - 71	3.11	2.61 - 3.61			404	354 - 454	14.2	10.7 - 17.7	
YSI																					
2300 Stat Plus																		434	384 - 484	16.2	12.7 - 19.7

FOOTNOTES: 1. Always Test as an Aqueous Material in the Sample or QC Mode
 2. ORL - Outside (Analyzer's) Reportable Limits
 3. DNA - Data Not Available at Time of Printing
 4. ORL - Outside (Analyzer's) Reportable Limits- Ignore Values if Displayed with Other Parameters

CVC 123 Calibration Verification Controls

Level 2

LOT 81519

Exp.: 2011-05

Expected Values Chart

Analyzers	pH		pCO ₂ mmHg		pO ₂ mmHg		Na ⁺ mmol/L		K ⁺ mmol/L		Cl ⁻ mmol/L		Ca ⁺⁺ mmol/L		Mg ⁺⁺ mmol/L		Glucose mg/dL		Lactate mmol/L		
	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	
IL																					
1300 Series	7.15	7.12 - 7.18	67	60 - 74	60	51 - 69															
BG3	7.15	7.12 - 7.18	70	63 - 77	61	52 - 70															
BGE	7.15	7.12 - 7.18	71	64 - 78	60	51 - 69	112	107 - 117	1.9	1.4 - 2.4	72	67 - 77	1.36	1.21 - 1.51							
1600 Series	7.15	7.12 - 7.18	70	63 - 77	58	49 - 67	111	106 - 116	2.0	1.5 - 2.5			1.36	1.21 - 1.51							
Synthesis Series	7.16	7.13 - 7.19	69	62 - 76	60	50 - 70	112	107 - 117	2.1	1.6 - 2.6	78	73 - 83	1.34	1.19 - 1.49			78	68 - 88			
Gem Premier	7.09	7.05 - 7.13	77	68 - 86	67	55 - 79	117	112 - 122	2.1	1.6 - 2.6			1.37	1.22 - 1.52							
Gem Premier 3000	7.14	7.10 - 7.18	73	64 - 82	70	58 - 82	112	107 - 117	1.8	1.3 - 2.3			1.39	1.24 - 1.54							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.15	7.12 - 7.18	73	66 - 80	66	56 - 76															
EasyStat	7.13	7.10 - 7.16	71	64 - 78	63	53 - 73	111	106 - 116	1.8	1.3 - 2.3	72	67 - 77	1.42	1.27 - 1.57							
Nova																					
Stat Profile 1-9	7.19	7.16 - 7.22	70	63 - 77	63	54 - 72	114	109 - 119	2.1	1.6 - 2.6	77	72 - 82	1.39	1.24 - 1.54			80	70 - 90	0.7	0.4 - 1.0	
Stat Profile 10	7.18	7.15 - 7.21	70	63 - 77	63	54 - 72	114	109 - 119	2.1	1.6 - 2.6	77	72 - 82					80	70 - 90	0.7	0.4 - 1.0	
Stat Profile Ultra	7.21	7.18 - 7.24	68	61 - 75	60	50 - 70	114	109 - 119	2.1	1.6 - 2.6	77	72 - 82	1.41	1.26 - 1.56	1.00	0.85 - 1.15	84	74 - 94	0.6	0.3 - 0.9	
OPTI Medical																					
OPTI CCA	7.21	7.16 - 7.26	71	63 - 79	79	64 - 94	117	109 - 125	1.8	1.3 - 2.3	85	80 - 90	1.29	1.14 - 1.44			83	67 - 99			
OPTI R	7.21	7.16 - 7.26	71	63 - 79	85	70 - 100	116	108 - 124	1.6	1.1 - 2.1			1.24	1.09 - 1.39							
OPTI LION	7.17	7.11 - 7.23					107	102 - 112	1.8	1.4 - 2.2	84	78 - 90	1.23	1.08 - 1.38							
Radiometer																					
ABL 3, 30	7.17	7.14 - 7.20	70	63 - 77	65	56 - 74															
ABL 300 Series	7.17	7.14 - 7.20	70	63 - 77	64	55 - 73															
ABL 4	7.15	7.12 - 7.18	72	65 - 79	66	57 - 75			2.0	1.5 - 2.5											
ABL 5	7.15	7.12 - 7.18	71	64 - 78	58	48 - 68															
ABL 50, 500 Series	7.15	7.12 - 7.18	70	63 - 77	69	59 - 79	114	109 - 119	2.0	1.5 - 2.5	72	67 - 77	1.46	1.31 - 1.61							
ABL 600 Series	7.15	7.12 - 7.18	70	63 - 77	69	59 - 79	114	109 - 119	2.0	1.5 - 2.5	72	67 - 77	1.49	1.34 - 1.64			72	62 - 82	0.6	0.3 - 0.9	
ABL 700 Series	7.14	7.11 - 7.17	70	63 - 77	72	62 - 82	114	109 - 119	2.1	1.6 - 2.6	75	70 - 80	1.47	1.32 - 1.62			76	66 - 86	0.6	0.3 - 0.9	
ABL 800 Series	7.14	7.11 - 7.17	70	63 - 77	72	62 - 82	114	109 - 119	2.1	1.6 - 2.6	75	70 - 80	1.47	1.32 - 1.62			76	66 - 86	0.6	0.3 - 0.9	
ICA, KNA 1							113	108 - 118	2.0	1.5 - 2.5			1.42	1.27 - 1.57							
EML Series							114	109 - 119	2.0	1.5 - 2.5	72	67 - 77	1.49	1.34 - 1.64			72	62 - 82	0.6	0.3 - 0.9	
Roche																					
AVL Compact Series	7.13	7.10 - 7.16	76	68 - 84	77	67 - 87															
OMNI 1-9 ¹	7.16	7.13 - 7.19	74	66 - 82	61	46 - 76	115	110 - 120	2.0	1.5 - 2.5	83	78 - 88	1.40	1.25 - 1.55			80	65 - 95	0.6	0.3 - 0.9	
Siemens (Bayer)																					
238	7.16	7.13 - 7.19	72	64 - 80	69	59 - 79															
248	7.16	7.13 - 7.19	69	61 - 77	51	41 - 61															
400 Series	7.12	7.08 - 7.16	78	68 - 88	75	63 - 87	108	103 - 113	1.9	1.4 - 2.4	74	68 - 80	1.37	1.21 - 1.53			78	68 - 88			
800 Series	7.17	7.14 - 7.20	71	64 - 78	58	48 - 68	109	104 - 114	1.8	1.3 - 2.3	76	71 - 81	1.37	1.22 - 1.52			78	68 - 88	0.7	0.4 - 1.0	
600 Series	7.17	7.14 - 7.20					113	108 - 118	2.0	1.5 - 2.5	79	74 - 84	1.44	1.29 - 1.59							
1200 Series	7.16	7.13 - 7.19	72	65 - 79	69	59 - 79	108	103 - 113	1.9	1.4 - 2.4	76	71 - 81	1.34	1.19 - 1.49			80	70 - 90	0.7	0.4 - 1.0	
YSI																					
2300 Stat Plus																		80	70 - 90	0.7	0.4 - 1.0

FOOTNOTES: 1. Always Test as an Aqueous Material in the Sample or QC Mode
 2. ORL - Outside (Analyzer's) Reportable Limits
 3. DNA - Data Not Available at Time of Printing
 4. ORL - Outside (Analyzer's) Reportable Limits- Ignore Values if Displayed with Other Parameters

CVC 123 Calibration Verification Controls

Level 3

LOT 81618

Exp.: 2011-05

Expected Values Chart

Analyzers	pH		pCO ₂ mmHg		pO ₂ mmHg		Na ⁺ mmol/L		K ⁺ mmol/L		Cl ⁻ mmol/L		Ca ⁺⁺ mmol/L		Mg ⁺⁺ mmol/L		Glucose mg/dL		Lactate mmol/L		
	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	
IL																					
1300 Series	7.40	7.37 - 7.43	43	38 - 48	101	92 - 110															
BG3	7.40	7.37 - 7.43	43	38 - 48	101	92 - 110															
BGE	7.40	7.37 - 7.43	44	39 - 49	101	92 - 110	131	126 - 136	4.3	3.8 - 4.8	94	89 - 99	1.07	0.97 - 1.17							
1600 Series	7.40	7.37 - 7.43	43	38 - 48	97	88 - 106	132	127 - 137	4.3	3.8 - 4.8			1.06	0.96 - 1.16							
Synthesis Series	7.41	7.38 - 7.44	43	38 - 48	100	90 - 110	133	128 - 138	4.5	4.0 - 5.0	98	93 - 103	1.07	0.97 - 1.17			198	178 - 218			
Gem Premier	7.39	7.35 - 7.43	46	39 - 53	106	94 - 118	138	133 - 143	4.5	4.0 - 5.0			1.07	0.97 - 1.17							
Gem Premier 3000	7.43	7.39 - 7.47	42	35 - 49	108	96 - 120	136	131 - 141	4.3	3.8 - 4.8			1.11	1.01 - 1.21							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.42	7.39 - 7.45	44	39 - 49	104	94 - 114															
EasyStat	7.41	7.38 - 7.44	44	39 - 49	100	90 - 110	134	129 - 139	4.2	3.7 - 4.7	94	89 - 99	1.09	0.99 - 1.19							
Nova																					
Stat Profile 1-9	7.42	7.39 - 7.45	42	37 - 47	100	91 - 109	134	129 - 139	4.5	4.0 - 5.0	97	92 - 102	1.08	0.98 - 1.18			202	182 - 222	2.7	2.2 - 3.2	
Stat Profile 10	7.42	7.39 - 7.45	43	38 - 48	101	92 - 110	134	129 - 139	4.5	4.0 - 5.0	97	92 - 102					202	182 - 222	2.7	2.2 - 3.2	
Stat Profile Ultra	7.45	7.42 - 7.48	43	38 - 48	99	89 - 109	135	130 - 140	4.5	4.0 - 5.0	97	92 - 102	1.08	0.98 - 1.18	0.59	0.49 - 0.69	206	186 - 226	2.8	2.3 - 3.3	
OPTI Medical																					
OPTI CCA	7.44	7.39 - 7.49	43	38 - 48	104	87 - 121	140	131 - 149	4.5	4.0 - 5.0	101	96 - 106	1.15	1.05 - 1.25			204	181 - 227			
OPTI R	7.43	7.38 - 7.48	41	36 - 46	116	99 - 133	141	132 - 150	4.7	4.2 - 5.2			1.20	1.10 - 1.30							
OPTI LION	7.39	7.33 - 7.45					134	129 - 139	4.6	4.1 - 5.1	100	92 - 108	1.15	1.00 - 1.30							
Radiometer																					
ABL 3, 30	7.42	7.39 - 7.45	43	38 - 48	106	97 - 115															
ABL 300 Series	7.42	7.39 - 7.45	43	38 - 48	103	94 - 112															
ABL 4	7.40	7.37 - 7.43	44	39 - 49	102	93 - 111			4.4	3.9 - 4.9											
ABL 5	7.40	7.37 - 7.43	42	37 - 47	101	92 - 110															
ABL 50, 500 Series	7.40	7.37 - 7.43	44	39 - 49	106	97 - 115	132	127 - 137	4.4	3.9 - 4.9	93	88 - 98	1.11	1.01 - 1.21							
ABL 600 Series	7.40	7.37 - 7.43	44	39 - 49	105	96 - 114	132	127 - 137	4.4	3.9 - 4.9	93	88 - 98	1.11	1.01 - 1.21			197	177 - 217	2.5	2.0 - 3.0	
ABL 700 Series	7.40	7.37 - 7.43	42	37 - 47	107	97 - 117	134	129 - 139	4.4	3.9 - 4.9	94	89 - 99	1.13	1.03 - 1.23			194	174 - 214	2.4	1.9 - 2.9	
ABL 800 Series	7.40	7.37 - 7.43	42	37 - 47	107	97 - 117	134	129 - 139	4.4	3.9 - 4.9	94	89 - 99	1.13	1.03 - 1.23			194	174 - 214	2.4	1.9 - 2.9	
ICA, KNA 1							132	127 - 137	4.5	4.0 - 5.0			1.09	0.99 - 1.19							
EML Series							132	127 - 137	4.4	3.9 - 4.9	93	88 - 98	1.11	1.01 - 1.21			197	177 - 217	2.5	2.0 - 3.0	
Roche																					
AVL Compact Series	7.38	7.35 - 7.41	46	41 - 51	111	101 - 121															
OMNI 1-9 ¹	7.40	7.37 - 7.43	45	40 - 50	101	89 - 113	135	130 - 140	4.5	4.0 - 5.0	100	95 - 105	1.09	0.99 - 1.19			195	175 - 215	2.8	2.3 - 3.3	
Siemens (Bayer)																					
238	7.41	7.38 - 7.44	44	38 - 50	100	90 - 110															
248	7.41	7.38 - 7.44	44	38 - 50	91	81 - 101															
400 Series	7.40	7.36 - 7.44	46	40 - 52	107	95 - 119	130	125 - 135	4.3	3.8 - 4.8	96	90 - 102	1.06	0.94 - 1.18			199	179 - 219			
800 Series	7.43	7.40 - 7.46	44	39 - 49	98	88 - 108	131	126 - 136	4.4	3.9 - 4.9	96	91 - 101	1.02	0.92 - 1.12			204	184 - 224	2.7	2.2 - 3.2	
600 Series	7.42	7.39 - 7.45					132	127 - 137	4.3	3.8 - 4.8	97	92 - 102	1.12	1.02 - 1.22							
1200 Series	7.43	7.40 - 7.46	43	38 - 48	105	95 - 115	129	124 - 134	4.2	3.7 - 4.7	95	90 - 100	1.01	0.91 - 1.11			191	171 - 211	2.8	2.3 - 3.3	
YSI																					
2300 Stat Plus																		200	180 - 220	2.8	2.3 - 3.3

FOOTNOTES: 1. Always Test as an Aqueous Material in the Sample or QC Mode
 2. ORL - Outside (Analyzer's) Reportable Limits
 3. DNA - Data Not Available at Time of Printing
 4. ORL - Outside (Analyzer's) Reportable Limits- Ignore Values if Displayed with Other Parameters

CVC 123 Calibration Verification Controls

Level 4

LOT 81718

Exp.: 2011-05

Expected Values Chart

Analyzers	pH		pCO ₂ mmHg		pO ₂ mmHg		Na ⁺ mmol/L		K ⁺ mmol/L		Cl ⁻ mmol/L		Ca ⁺⁺ mmol/L		Mg ⁺⁺ mmol/L		Glucose mg/dL		Lactate mmol/L		
	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	
IL																					
1300 Series	7.56	7.53 - 7.59	25	21 - 29	146	136 - 156															
BG3	7.57	7.54 - 7.60	24	20 - 28	146	136 - 156															
BGE	7.58	7.55 - 7.61	25	21 - 29	146	136 - 156	155	150 - 160	6.0	5.5 - 6.5	119	114 - 124	0.51	0.41 - 0.61							
1600 Series	7.57	7.54 - 7.60	22	18 - 26	148	138 - 158	155	150 - 160	6.0	5.5 - 6.5			0.50	0.40 - 0.60							
Synthesis Series	7.58	7.55 - 7.61	24	20 - 28	152	142 - 162	156	151 - 161	6.3	5.8 - 6.8	120	115 - 125	0.49	0.39 - 0.59			287	257 - 317			
Gem Premier	7.59	7.55 - 7.63	23	17 - 29	152	140 - 164	160	155 - 165	6.1	5.6 - 6.6			0.53	0.43 - 0.63							
Gem Premier 3000	7.64	7.60 - 7.68	21	15 - 27	158	146 - 170	161	156 - 166	6.2	5.7 - 6.7			0.46	0.36 - 0.56							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.60	7.57 - 7.63	22	18 - 26	150	139 - 161															
EasyStat	7.60	7.57 - 7.63	23	19 - 27	147	136 - 158	160	155 - 165	6.1	5.6 - 6.6	120	115 - 125	0.55	0.45 - 0.65							
Nova																					
Stat Profile 1-9	7.58	7.55 - 7.61	23	19 - 27	152	142 - 162	158	153 - 163	6.3	5.8 - 6.8	123	118 - 128	0.50	0.40 - 0.60			282	252 - 312	7.0	5.5 - 8.5	
Stat Profile 10	7.58	7.55 - 7.61	23	19 - 27	152	142 - 162	158	153 - 163	6.3	5.8 - 6.8	123	118 - 128					287	257 - 317	7.0	5.5 - 8.5	
Stat Profile Ultra	7.61	7.58 - 7.64	24	20 - 28	150	139 - 161	160	155 - 165	6.4	5.9 - 6.9	123	118 - 128	0.49	0.39 - 0.59	0.35	0.27 - 0.43	300	270 - 330	7.4	5.9 - 8.9	
OPTI Medical																					
OPTI CCA	7.64	7.58 - 7.70	22	18 - 26	143	131 - 155	164	154 - 174	6.6	6.1 - 7.1	128	122 - 134	0.49	0.44 - 0.54			296	246 - 346			
OPTI R	7.66	7.60 - 7.72	21	17 - 25	153	141 - 165	167	157 - 177	7.0	6.5 - 7.5			0.61	0.56 - 0.66							
OPTI LION	7.60	7.54 - 7.66					159	152 - 166	6.7	6.2 - 7.2	126	118 - 134	0.69	0.57 - 0.81							
Radiometer																					
ABL 3, 30	7.59	7.56 - 7.62	23	19 - 27	154	144 - 164															
ABL 300 Series	7.59	7.56 - 7.62	24	20 - 28	151	141 - 161															
ABL 4	7.57	7.54 - 7.60	24	20 - 28	151	141 - 161			6.2	5.7 - 6.7											
ABL 5	7.57	7.54 - 7.60	23	19 - 27	153	143 - 163															
ABL 50, 500 Series	7.58	7.55 - 7.61	23	19 - 27	154	144 - 164	156	151 - 161	6.2	5.7 - 6.7	118	113 - 123	0.51	0.41 - 0.61							
ABL 600 Series	7.58	7.55 - 7.61	23	19 - 27	152	142 - 162	156	151 - 161	6.1	5.6 - 6.6	118	113 - 123	0.52	0.42 - 0.62			267	237 - 297	6.3	4.8 - 7.8	
ABL 700 Series	7.58	7.55 - 7.61	23	19 - 27	154	144 - 164	157	152 - 162	6.1	5.6 - 6.6	119	114 - 124	0.54	0.44 - 0.64			277	247 - 307	6.2	4.7 - 7.7	
ABL 800 Series	7.58	7.55 - 7.61	23	19 - 27	154	144 - 164	157	152 - 162	6.1	5.6 - 6.6	119	114 - 124	0.54	0.44 - 0.64			277	247 - 307	6.2	4.7 - 7.7	
ICA, KNA 1							156	151 - 161	6.3	5.8 - 6.8			0.48	0.38 - 0.58							
EML Series							156	151 - 161	6.1	5.6 - 6.6	118	113 - 123	0.52	0.42 - 0.62			267	237 - 297	6.3	4.8 - 7.8	
Roche																					
AVL Compact Series	7.55	7.52 - 7.58	23	19 - 27	156	145 - 167															
OMNI 1-9 ¹	7.57	7.54 - 7.60	24	20 - 28	152	140 - 164	160	155 - 165	6.4	5.9 - 6.9	124	119 - 129	0.50	0.40 - 0.60			287	252 - 322	7.1	5.6 - 8.6	
Siemens (Bayer)																					
238	7.58	7.55 - 7.61	24	19 - 29	138	127 - 149															
248	7.58	7.55 - 7.61	24	19 - 29	139	128 - 150															
400 Series	7.59	7.55 - 7.63	24	19 - 29	149	137 - 161	156	149 - 163	6.1	5.6 - 6.6	121	111 - 131	0.49	0.39 - 0.59			286	256 - 316			
800 Series	7.61	7.58 - 7.64	23	19 - 27	148	137 - 159	156	151 - 161	6.3	5.8 - 6.8	120	115 - 125	0.46	0.36 - 0.56			300	270 - 330	7.1	5.6 - 8.6	
600 Series	7.59	7.56 - 7.62					157	152 - 162	6.1	5.6 - 6.6	122	117 - 127	0.49	0.39 - 0.59							
1200 Series	7.61	7.58 - 7.64	22	18 - 26	151	140 - 162	154	149 - 159	6.1	5.6 - 6.6	121	116 - 126	0.48	0.38 - 0.58			270	240 - 300	6.6	5.1 - 8.1	
YSI																					
2300 Stat Plus																		291	261 - 321	7.1	5.6 - 8.6

FOOTNOTES:

1. Always Test as an Aqueous Material in the Sample or QC Mode
2. ORL - Outside (Analyzer's) Reportable Limits
3. DNA - Data Not Available at Time of Printing
4. ORL - Outside (Analyzer's) Reportable Limits- Ignore Values if Displayed with Other Parameters

CVC 123 Calibration Verification Controls

Level 5

LOT 84213

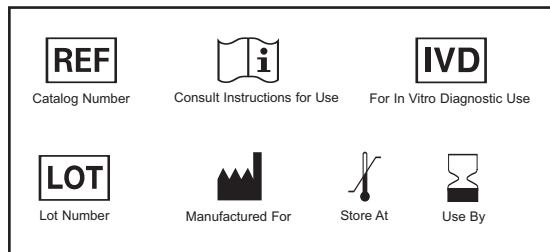
Exp.: 2011-05

Expected Values Chart

Analyzers	pH		pCO ₂ mmHg		pO ₂ mmHg		Na ⁺ mmol/L		K ⁺ mmol/L		Cl ⁻ mmol/L		Ca ⁺⁺ mmol/L		Mg ⁺⁺ mmol/L		Glucose mg/dL		Lactate mmol/L		
	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	mean	range	
IL																					
1300 Series	7.78	7.74 - 7.82	15	11 - 19	481	421 - 541															
BG3	7.79	7.75 - 7.83	13	9 - 17	491	431 - 551															
BGE	7.79	7.75 - 7.83	14	10 - 18	491	431 - 551	164	159 - 169	1.4	0.9 - 1.9	DNA ³		0.25	0.15 - 0.35							
1600 Series	7.79	7.75 - 7.83	12	8 - 16	481	421 - 541	166	161 - 171	1.4	0.9 - 1.9			0.25	0.15 - 0.35							
Synthesis Series	7.81	7.77 - 7.85	14	10 - 18	486	426 - 546	165	160 - 170	1.8	1.3 - 2.3	129	124 - 134	0.22	0.12 - 0.32			0	0 - 5			
Gem Premier	ORL ²		13	9 - 17	521	461 - 581	172	167 - 177	1.6	1.1 - 2.1			0.22	0.12 - 0.32							
Gem Premier 3000	ORL ²		12	8 - 16	481	421 - 541	176	171 - 181	1.4	0.9 - 1.9			0.14	0.04 - 0.24							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.81	7.78 - 7.84	12	8 - 16	431	381 - 481															
EasyStat	7.80	7.77 - 7.83	13	9 - 17	439	389 - 489	170	165 - 175	1.6	1.1 - 2.1	130	125 - 135	0.28	0.18 - 0.38							
Nova																					
Stat Profile 1-9	7.80	7.76 - 7.84	13	9 - 17	481	421 - 541	168	163 - 173	1.8	1.3 - 2.3	132	127 - 137	0.22	0.12 - 0.32			0	0 - 5	11.2	8.7 - 13.7	
Stat Profile 10	7.80	7.76 - 7.84	13	9 - 17	491	431 - 551	168	163 - 173	1.6	1.1 - 2.1	132	127 - 137					0	0 - 5	11.2	8.7 - 13.7	
Stat Profile Ultra	7.82	7.78 - 7.86	13	9 - 17	483	423 - 543	169	164 - 174	1.6	1.1 - 2.1	132	127 - 137	0.22	0.12 - 0.32	DNA ³		0	0 - 5	11.2	8.7 - 13.7	
OPTI Medical																					
OPTI CCA	ORL		13	11 - 16	459	399 - 519	ORL		1.5	1.0 - 2.0	140	134 - 146	ORL				ORL				
OPTI R	ORL		11	ORL - 14	491	431 - 551	ORL		1.0	0.5 - 1.5			ORL								
OPTI LION	7.90	7.84 - 7.96					174	167 - 181	ORL		ORL		0.43	0.31 - 0.55							
Radiometer																					
ABL 3, 30	7.82	7.78 - 7.86	13	9 - 17	456	396 - 516															
ABL 300 Series	7.81	7.77 - 7.85	14	10 - 18	451	391 - 511															
ABL 4	7.80	7.76 - 7.84	14	10 - 18	446	386 - 506			1.5	1.0 - 2.0											
ABL 5	7.79	7.75 - 7.83	13	9 - 17	511	451 - 571															
ABL 50, 500 Series	7.80	7.76 - 7.84	13	9 - 17	466	406 - 526	165	160 - 170	1.5	1.0 - 2.0	127	122 - 132	0.24	0.14 - 0.34							
ABL 600 Series	7.80	7.76 - 7.84	13	9 - 17	466	406 - 526	165	160 - 170	1.6	1.1 - 2.1	127	122 - 132	0.24	0.14 - 0.34			0	0 - 5	10.5	8.0 - 13.0	
ABL 700 Series	7.80	7.76 - 7.84	13	9 - 17	461	401 - 521	166	161 - 171	1.7	1.2 - 2.2	129	124 - 134	0.25	0.15 - 0.35			0	0 - 5	10.8	8.3 - 13.3	
ABL 800 Series	7.80	7.76 - 7.84	13	9 - 17	461	401 - 521	166	161 - 171	1.7	1.2 - 2.2	129	124 - 134	0.25	0.15 - 0.35			0	0 - 5	10.8	8.3 - 13.3	
ICA, KNA 1							165	160 - 170	1.5	1.0 - 2.0			0.24	0.14 - 0.34							
EML Series							165	160 - 170	1.5	1.0 - 2.0	127	122 - 132	0.24	0.14 - 0.34			0	0 - 5	10.5	8.0 - 13.0	
Roche																					
AVL Compact Series	7.80	7.76 - 7.84	13	9 - 17	490	430 - 550															
OMNI 1-9 ¹	7.77	7.73 - 7.81	14	10 - 18	451	391 - 511	170	165 - 175	1.6	1.1 - 2.1	133	128 - 138	0.19	0.09 - 0.29			ORL ²		11.8	9.3 - 14.3	
Siemens (Bayer)																					
238	7.81	7.77 - 7.85	13	9 - 17	481	421 - 541															
248	7.81	7.77 - 7.85	13	9 - 17	481	421 - 541															
400 Series	ORL ²		ORL ²		470	410 - 530	169	159 - 179	1.5	1.0 - 2.0	131	121 - 141	ORL ²				ORL ²				
800 Series	7.83	7.79 - 7.87	13	9 - 17	461	401 - 521	166	161 - 171	1.4	0.9 - 1.9	129	124 - 134	0.25	0.15 - 0.35			ORL ²		9.9	7.4 - 12.4	
600 Series	7.81	7.77 - 7.85					166	161 - 171	1.5	1.0 - 2.0	131	126 - 136	0.22	0.12 - 0.32							
1200 Series	7.84	7.80 - 7.88	12	8 - 16	479	419 - 539	163	158 - 168	1.5	1.0 - 2.0	131	126 - 136	0.30	0.20 - 0.40			ORL ²		11.2	8.7 - 13.7	
YSI																					
2300 Stat Plus																		0	0 - 5	12.0	9.5 - 14.5

FOOTNOTES: 1. Always Test as an Aqueous Material in the Sample or QC Mode
 2. ORL - Outside (Analyzer's) Reportable Limits
 3. DNA - Data Not Available at Time of Printing
 4. ORL - Outside (Analyzer's) Reportable Limits- Ignore Values if Displayed with Other Parameters

CVC 123 Calibration Verification Controls



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OPTI Medical, Roswell, GA
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