


CVC 123

5 Levels

CVC 123 Calibration Verification Controls

LOT	Set: 712313	 Exp.:	Set: 2009-09	REF CVC 123
	Level 1: 64111		Level 1: 2009-09	
	Level 2: 61517		Level 2: 2009-11	
	Level 3: 61616		Level 3: 2009-11	
	Level 4: 61716		Level 4: 2009-11	
	Level 5: 64211		Level 5: 2009-11	IVD For 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 CO₂, O₂, and N₂. 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.

RNA[®]
MEDICAL

CVC 123 Calibration Verification Controls

Level 1

LOT 64111

Exp.: 2009-09

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	
Bayer																					
238	6.83	6.80 - 6.86	101	89 - 113	35	20 - 50															
248	6.84	6.81 - 6.87	101	89 - 113	21	6 - 36															
400, 405	6.77	6.73 - 6.81	103	89 - 117	43	27 - 59	ORL ²	10.9	8.4 - 13.4	ORL ²	2.98	2.48 - 3.48			449	399 - 499					
840, 845, 850, 855, 860, 865	6.84	6.81 - 6.87	94	82 - 106	25	10 - 40	84	79 - 89	11.9	9.4 - 14.4	66	61 - 71	3.09	2.59 - 3.59			441	391 - 491	14.3	10.8 - 17.8	
614, 634, 644	6.83	6.80 - 6.86					84	79 - 89	ORL ²		70	65 - 75	3.37	2.87 - 3.87							
IL																					
1304, 1306, 1312	6.83	6.80 - 6.86	86	74 - 98	28	13 - 43															
BG3	6.83	6.80 - 6.86	91	79 - 103	23	8 - 38															
BGE	6.83	6.80 - 6.86	91	79 - 103	24	9 - 39	85	80 - 90	11.6	9.1 - 14.1	DNA ³	3.17	2.67 - 3.67								
1610, 1620, 1630, 1640, 1650	6.83	6.80 - 6.86	94	82 - 106	25	10 - 40	86	81 - 91	12.1	9.6 - 14.6		3.12	2.62 - 3.62								
Synthesis 10, 15, 20, 25, 30, 35	6.84	6.81 - 6.87	90	78 - 102	18	3 - 33	84	79 - 89	11.7	9.2 - 14.2	67	62 - 72	3.02	2.52 - 3.52			391	341 - 441			
Gem Premier	ORL ²		ORL ²		35	20 - 50	ORL ²		ORL ²			3.62	3.12 - 4.12								
Gem Premier 3000	ORL ²		94	82 - 106	36	21 - 51	ORL ²		11.6	9.1 - 14.1		3.34	2.84 - 3.84								
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	ORL ²		97	85 - 109	26	11 - 41															
EasyStat	6.81	6.78 - 6.84	96	84 - 108	27	12 - 42	82	77 - 87	11.4	9.4 - 13.4	65	60 - 70	3.14	2.74 - 3.54							
Nova																					
Stat Profile 1-9	6.88	6.85 - 6.91	89	77 - 101	23	8 - 38	87	82 - 92	11.6	9.1 - 14.1	70	65 - 75	3.06	2.56 - 3.56			441	391 - 491	15.6	12.1 - 19.1	
Stat Profile 10	6.85	6.82 - 6.88	91	79 - 103	21	6 - 36	87	82 - 92	11.8	9.3 - 14.3	70	65 - 75					451	401 - 501	15.6	12.1 - 19.1	
Stat Profile Ultra	6.89	6.86 - 6.92	86	74 - 98	21	6 - 36	87	82 - 92	11.8	9.3 - 14.3	70	65 - 75	3.06	2.56 - 3.56	DNA ³		451	401 - 501	15.6	12.1 - 19.1	
Osmetech																					
OPTI 1	DNA ³		DNA ³		DNA ³																
OPTI CCA	6.89	6.84 - 6.94	90	78 - 102	64	49 - 79	ORL ²		ORL ²		74	69 - 79	ORL ²					ORL ²			
OPTI R	6.89	6.84 - 6.94	93	81 - 105	67	52 - 82	ORL ²		ORL ²				ORL ²								
Radiometer																					
ABL 3, 30	6.84	6.81 - 6.87	89	77 - 101	30	15 - 45															
ABL 300, 330	6.84	6.81 - 6.87	89	77 - 101	29	14 - 44															
ABL 4	6.83	6.80 - 6.86	89	77 - 101	32	17 - 47			11.3	8.8 - 13.8											
ABL 5	6.83	6.80 - 6.86	91	79 - 103	21	6 - 36															
ABL 50, 500, 505, 510, 520	6.83	6.80 - 6.86	90	78 - 102	36	21 - 51	86	81 - 91	11.2	8.7 - 13.7	65	60 - 70	3.23	2.73 - 3.73							
ABL 600, 605, 610, 615, 620, 625	6.83	6.80 - 6.86	90	78 - 102	36	21 - 51	86	81 - 91	11.2	8.7 - 13.7	65	60 - 70	3.23	2.73 - 3.73			411	361 - 461	14.9	11.4 - 18.4	
ABL 700, 705, 710, 715, 720, 725	6.83	6.80 - 6.86	88	76 - 100	39	24 - 54	86	81 - 91	11.2	8.7 - 13.7	66	61 - 71	3.27	2.77 - 3.77			414	364 - 464	14.9	11.4 - 18.4	
ABL 800, 805, 810, 815, 820, 825	6.83	6.80 - 6.86	88	76 - 100	39	24 - 54	86	81 - 91	11.2	8.7 - 13.7	66	61 - 71	3.27	2.77 - 3.77			414	364 - 464	14.9	11.4 - 18.4	
ICA, KNA 1							85	80 - 90	11.2	8.7 - 13.7			3.15	2.65 - 3.65							
EML 100, 105							86	81 - 91	11.2	8.7 - 13.7	65	60 - 70	3.23	2.73 - 3.73			411	361 - 461	14.9	11.4 - 18.4	
Roche																					
AVL Compact Series	6.82	6.79 - 6.85	90	78 - 102	36	21 - 51															
OMNI 1-9 ¹	6.87	6.84 - 6.90	90	78 - 102	21	6 - 36	87	82 - 92	11.4	8.9 - 13.9	73	68 - 78	3.06	2.56 - 3.56			419	369 - 469	16.2	12.7 - 19.7	
YSI																					
2300 Stat Plus																		431	381 - 481	16.4	12.9 - 19.9

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 61517

Exp.: 2009-11

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	
Bayer																					
238	7.15	7.12 - 7.18	72	64 - 80	71	61 - 81															
248	7.15	7.12 - 7.18	69	61 - 77	53	43 - 63															
400, 405	7.11	7.07 - 7.15	78	68 - 88	77	65 - 89	107	102 - 112	1.8	1.3 - 2.3	74	68 - 80	1.39	1.23 - 1.55			77	67 - 87			
840, 845, 850, 855, 860, 865	7.16	7.13 - 7.19	71	64 - 78	60	50 - 70	108	103 - 113	1.7	1.2 - 2.2	76	71 - 81	1.39	1.24 - 1.54			77	67 - 87	0.7	0.4 - 1.0	
614, 634, 644	7.16	7.13 - 7.19					111	106 - 116	1.9	1.4 - 2.4	79	74 - 84	1.46	1.31 - 1.61							
IL																					
1304, 1306, 1312	7.14	7.11 - 7.17	67	60 - 74	62	53 - 71															
BG3	7.14	7.11 - 7.17	70	63 - 77	63	54 - 72															
BGE	7.14	7.11 - 7.17	71	64 - 78	62	53 - 71	111	106 - 116	1.8	1.3 - 2.3	72	67 - 77	1.38	1.23 - 1.53							
1610, 1620, 1630, 1640, 1650	7.14	7.11 - 7.17	70	63 - 77	60	51 - 69	110	105 - 115	1.9	1.4 - 2.4			1.38	1.23 - 1.53							
Synthesis 10, 15, 20, 25, 30, 35	7.15	7.12 - 7.18	69	62 - 76	62	52 - 72	111	106 - 116	2.0	1.5 - 2.5	78	73 - 83	1.36	1.21 - 1.51			77	67 - 87			
Gem Premier	7.08	7.04 - 7.12	77	68 - 86	69	57 - 81	116	111 - 121	2.0	1.5 - 2.5			1.39	1.24 - 1.54							
Gem Premier 3000	7.13	7.09 - 7.17	73	64 - 82	72	60 - 84	111	106 - 116	1.7	1.2 - 2.2			1.41	1.26 - 1.56							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.13	7.10 - 7.16	74	67 - 81	65	55 - 75															
EasyStat	7.13	7.10 - 7.16	74	67 - 81	64	54 - 74	111	106 - 116	1.8	1.3 - 2.3	75	70 - 80	1.43	1.28 - 1.58							
Nova																					
Stat Profile 1-9	7.18	7.15 - 7.21	70	63 - 77	65	56 - 74	113	108 - 118	2.0	1.5 - 2.5	77	72 - 82	1.41	1.26 - 1.56			79	69 - 89	0.7	0.4 - 1.0	
Stat Profile 10	7.17	7.14 - 7.20	70	63 - 77	65	56 - 74	113	108 - 118	2.0	1.5 - 2.5	77	72 - 82					79	69 - 89	0.7	0.4 - 1.0	
Stat Profile Ultra	7.20	7.17 - 7.23	68	61 - 75	62	52 - 72	113	108 - 118	2.0	1.5 - 2.5	77	72 - 82	1.43	1.28 - 1.58	1.01	0.86 - 1.16	83	73 - 93	0.6	0.3 - 0.9	
Osmetech																					
OPTI 1	DNA ³		DNA ³		DNA ³																
OPTI CCA	7.20	7.15 - 7.25	71	63 - 79	85	70 - 100	116	108 - 124	1.9	1.4 - 2.4	85	80 - 90	1.31	1.16 - 1.46			82	66 - 98			
OPTI R	7.20	7.15 - 7.25	73	65 - 81	88	73 - 103	114	106 - 122	1.5	1.0 - 2.0			1.20	1.05 - 1.35							
Radiometer																					
ABL 3, 30	7.16	7.13 - 7.19	70	63 - 77	67	58 - 76															
ABL 300, 330	7.16	7.13 - 7.19	70	63 - 77	66	57 - 75															
ABL 4	7.14	7.11 - 7.17	72	65 - 79	68	59 - 77			1.9	1.4 - 2.4											
ABL 5	7.14	7.11 - 7.17	71	64 - 78	60	50 - 70															
ABL 50, 500, 505, 510, 520	7.14	7.11 - 7.17	70	63 - 77	71	61 - 81	113	108 - 118	1.9	1.4 - 2.4	72	67 - 77	1.48	1.33 - 1.63							
ABL 600, 605, 610, 615, 620, 625	7.14	7.11 - 7.17	70	63 - 77	71	61 - 81	113	108 - 118	1.9	1.4 - 2.4	72	67 - 77	1.51	1.36 - 1.66			71	61 - 81	0.6	0.3 - 0.9	
ABL 700, 705, 710, 715, 720, 725	7.13	7.10 - 7.16	70	63 - 77	74	64 - 84	113	108 - 118	2.0	1.5 - 2.5	75	70 - 80	1.49	1.34 - 1.64			75	65 - 85	0.6	0.3 - 0.9	
ABL 800, 805, 810, 815, 820, 825	7.13	7.10 - 7.16	70	63 - 77	74	64 - 84	113	108 - 118	2.0	1.5 - 2.5	75	70 - 80	1.49	1.34 - 1.64			75	65 - 85	0.6	0.3 - 0.9	
ICA, KNA 1							112	107 - 117	1.9	1.4 - 2.4			1.44	1.29 - 1.59							
EML 100, 105							113	108 - 118	1.9	1.4 - 2.4	72	67 - 77	1.51	1.36 - 1.66			71	61 - 81	0.6	0.3 - 0.9	
Roche																					
AVL Compact Series	7.12	7.09 - 7.15	76	68 - 84	79	69 - 89															
OMNI 1-9 ¹	7.15	7.12 - 7.18	74	66 - 82	63	48 - 78	114	109 - 119	1.9	1.4 - 2.4	83	78 - 88	1.42	1.27 - 1.57			79	64 - 94	0.6	0.3 - 0.9	
YSI																					
2300 Stat Plus																		79	69 - 89	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 61616

Exp.: 2009-11

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	
Bayer																					
238	7.40	7.37 - 7.43	45	39 - 51	99	89 - 109															
248	7.40	7.37 - 7.43	45	39 - 51	90	80 - 100															
400, 405	7.39	7.35 - 7.43	47	41 - 53	106	94 - 118	130	125 - 135	4.2	3.7 - 4.7	97	91 - 103	1.05	0.93 - 1.17			197	177 - 217			
840, 845, 850, 855, 860, 865	7.42	7.39 - 7.45	45	40 - 50	97	87 - 107	131	126 - 136	4.3	3.8 - 4.8	97	92 - 102	1.01	0.91 - 1.11			202	182 - 222	2.7	2.2 - 3.2	
614, 634, 644	7.41	7.38 - 7.44					133	128 - 138	4.3	3.8 - 4.8	99	94 - 104	1.11	1.01 - 1.21							
IL																					
1304, 1306, 1312	7.39	7.36 - 7.42	44	39 - 49	100	91 - 109															
BG3	7.39	7.36 - 7.42	44	39 - 49	100	91 - 109															
BGE	7.39	7.36 - 7.42	45	40 - 50	100	91 - 109	131	126 - 136	4.2	3.7 - 4.7	95	90 - 100	1.06	0.96 - 1.16							
1610, 1620, 1630, 1640, 1650	7.39	7.36 - 7.42	44	39 - 49	96	87 - 105	132	127 - 137	4.2	3.7 - 4.7			1.05	0.95 - 1.15							
Synthesis 10, 15, 20, 25, 30, 35	7.40	7.37 - 7.43	44	39 - 49	99	89 - 109	133	128 - 138	4.4	3.9 - 4.9	99	94 - 104	1.06	0.96 - 1.16			196	176 - 216			
Gem Premier	7.38	7.34 - 7.42	47	40 - 54	105	93 - 117	138	133 - 143	4.4	3.9 - 4.9			1.06	0.96 - 1.16							
Gem Premier 3000	7.42	7.38 - 7.46	43	36 - 50	107	95 - 119	136	131 - 141	4.2	3.7 - 4.7			1.10	1.00 - 1.20							
ITC																					
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																				
Medica																					
EasyBloodGas	7.39	7.36 - 7.42	45	40 - 50	103	93 - 113															
EasyStat	7.40	7.37 - 7.43	45	40 - 50	102	92 - 112	135	130 - 140	4.2	3.7 - 4.7	96	91 - 101	1.10	1.00 - 1.20							
Nova																					
Stat Profile 1-9	7.41	7.38 - 7.44	43	38 - 48	99	90 - 108	134	129 - 139	4.4	3.9 - 4.9	98	93 - 103	1.07	0.97 - 1.17			200	180 - 220	2.7	2.2 - 3.2	
Stat Profile 10	7.41	7.38 - 7.44	44	39 - 49	100	91 - 109	134	129 - 139	4.4	3.9 - 4.9	98	93 - 103					200	180 - 220	2.7	2.2 - 3.2	
Stat Profile Ultra	7.44	7.41 - 7.47	44	39 - 49	98	88 - 108	135	130 - 140	4.4	3.9 - 4.9	98	93 - 103	1.07	0.97 - 1.17	0.58	0.48 - 0.68	204	184 - 224	2.8	2.3 - 3.3	
Osmetech																					
OPTI 1	DNA ³		DNA ³		DNA ³																
OPTI CCA	7.40	7.35 - 7.45	43	38 - 48	113	96 - 130	140	131 - 149	4.5	4.0 - 5.0	103	98 - 108	1.15	1.05 - 1.25			210	187 - 233			
OPTI R	7.40	7.35 - 7.45	45	40 - 50	114	97 - 131	141	132 - 150	4.5	4.0 - 5.0			1.20	1.10 - 1.30							
Radiometer																					
ABL 3, 30	7.41	7.38 - 7.44	44	39 - 49	105	96 - 114															
ABL 300, 330	7.41	7.38 - 7.44	44	39 - 49	102	93 - 111															
ABL 4	7.39	7.36 - 7.42	45	40 - 50	101	92 - 110			4.3	3.8 - 4.8											
ABL 5	7.39	7.36 - 7.42	43	38 - 48	100	91 - 109															
ABL 50, 500, 505, 510, 520	7.39	7.36 - 7.42	45	40 - 50	105	96 - 114	132	127 - 137	4.3	3.8 - 4.8	94	89 - 99	1.10	1.00 - 1.20							
ABL 600, 605, 610, 615, 620, 625	7.39	7.36 - 7.42	45	40 - 50	104	95 - 113	132	127 - 137	4.3	3.8 - 4.8	94	89 - 99	1.10	1.00 - 1.20			195	175 - 215	2.5	2.0 - 3.0	
ABL 700, 705, 710, 715, 720, 725	7.39	7.36 - 7.42	43	38 - 48	106	96 - 116	134	129 - 139	4.3	3.8 - 4.8	95	90 - 100	1.12	1.02 - 1.22			192	172 - 212	2.4	1.9 - 2.9	
ABL 800, 805, 810, 815, 820, 825	7.39	7.36 - 7.42	43	38 - 48	106	96 - 116	134	129 - 139	4.3	3.8 - 4.8	95	90 - 100	1.12	1.02 - 1.22			192	172 - 212	2.4	1.9 - 2.9	
ICA, KNA 1							132	127 - 137	4.4	3.9 - 4.9			1.08	0.98 - 1.18							
EML 100, 105							132	127 - 137	4.3	3.8 - 4.8	94	89 - 99	1.10	1.00 - 1.20			195	175 - 215	2.5	2.0 - 3.0	
Roche																					
AVL Compact Series	7.37	7.34 - 7.40	47	42 - 52	110	100 - 120															
OMNI 1-9 ¹	7.39	7.36 - 7.42	46	41 - 51	100	88 - 112	135	130 - 140	4.4	3.9 - 4.9	101	96 - 106	1.08	0.98 - 1.18			193	173 - 213	2.8	2.3 - 3.3	
YSI																					
2300 Stat Plus																		198	178 - 218	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 61716

Exp.: 2009-11

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	
Bayer																					
238	7.58	7.55 - 7.61	24	19 - 29	139	128 - 150															
248	7.58	7.55 - 7.61	24	19 - 29	140	129 - 151															
400, 405	7.59	7.55 - 7.63	24	19 - 29	150	138 - 162	157	150 - 164	6.2	5.7 - 6.7	124	114 - 134	0.51	0.41 - 0.61			292	262 - 322			
840, 845, 850, 855, 860, 865	7.61	7.58 - 7.64	23	19 - 27	149	138 - 160	157	152 - 162	6.4	5.9 - 6.9	123	118 - 128	0.48	0.38 - 0.58			306	276 - 336	7.3	5.8 - 8.8	
614, 634, 644	7.59	7.56 - 7.62					159	154 - 164	6.3	5.8 - 6.8	127	122 - 132	0.51	0.41 - 0.61							
IL																					
1304, 1306, 1312	7.56	7.53 - 7.59	25	21 - 29	147	137 - 157															
BG3	7.57	7.54 - 7.60	24	20 - 28	147	137 - 157															
BGE	7.58	7.55 - 7.61	25	21 - 29	147	137 - 157	156	151 - 161	6.1	5.6 - 6.6	122	117 - 127	0.53	0.43 - 0.63							
1610, 1620, 1630, 1640, 1650	7.57	7.54 - 7.60	22	18 - 26	149	139 - 159	156	151 - 161	6.1	5.6 - 6.6			0.52	0.42 - 0.62							
Synthesis 10, 15, 20, 25, 30, 35	7.58	7.55 - 7.61	24	20 - 28	153	143 - 163	157	152 - 162	6.4	5.9 - 6.9	123	118 - 128	0.51	0.41 - 0.61			293	263 - 323			
Gem Premier	7.59	7.55 - 7.63	23	17 - 29	153	141 - 165	161	156 - 166	6.2	5.7 - 6.7			0.55	0.45 - 0.65							
Gem Premier 3000	7.64	7.60 - 7.68	21	15 - 27	159	147 - 171	162	157 - 167	6.3	5.8 - 6.8			0.48	0.38 - 0.58							
ITC																					
IRMA and IRMA TRUpoint		Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																			
Medica																					
EasyBloodGas	7.58	7.55 - 7.61	22	18 - 26	156	145 - 167															
EasyStat	7.59	7.56 - 7.62	22	18 - 26	156	145 - 167	163	158 - 168	6.4	5.9 - 6.9	123	118 - 128	0.55	0.45 - 0.65							
Nova																					
Stat Profile 1-9	7.58	7.55 - 7.61	23	19 - 27	153	143 - 163	159	154 - 164	6.4	5.9 - 6.9	126	121 - 131	0.52	0.42 - 0.62			288	258 - 318	7.2	5.7 - 8.7	
Stat Profile 10	7.58	7.55 - 7.61	23	19 - 27	153	143 - 163	159	154 - 164	6.4	5.9 - 6.9	126	121 - 131					293	263 - 323	7.2	5.7 - 8.7	
Stat Profile Ultra	7.61	7.58 - 7.64	24	20 - 28	151	140 - 162	161	156 - 166	6.5	6.0 - 7.0	126	121 - 131	0.51	0.41 - 0.61	0.35	0.27 - 0.43	306	276 - 336	7.6	6.1 - 9.1	
Osmetech																					
OPTI 1	DNA ³		DNA ³		DNA ³																
OPTI CCA	7.62	7.56 - 7.68	22	18 - 26	155	143 - 167	164	154 - 174	6.6	6.1 - 7.1	132	126 - 138	0.53	0.48 - 0.58			311	261 - 361			
OPTI R	7.62	7.56 - 7.68	23	19 - 27	152	140 - 164	168	158 - 178	6.7	6.2 - 7.2			0.72	0.67 - 0.77							
Radiometer																					
ABL 3, 30	7.59	7.56 - 7.62	23	19 - 27	155	145 - 165															
ABL 300, 330	7.59	7.56 - 7.62	24	20 - 28	152	142 - 162															
ABL 4	7.57	7.54 - 7.60	24	20 - 28	152	142 - 162			6.3	5.8 - 6.8											
ABL 5	7.57	7.54 - 7.60	23	19 - 27	154	144 - 164															
ABL 50, 500, 505, 510, 520	7.58	7.55 - 7.61	23	19 - 27	155	145 - 165	157	152 - 162	6.3	5.8 - 6.8	121	116 - 126	0.53	0.43 - 0.63							
ABL 600, 605, 610, 615, 620, 625	7.58	7.55 - 7.61	23	19 - 27	153	143 - 163	157	152 - 162	6.2	5.7 - 6.7	121	116 - 126	0.54	0.44 - 0.64			273	243 - 303	6.5	5.0 - 8.0	
ABL 700, 705, 710, 715, 720, 725	7.58	7.55 - 7.61	23	19 - 27	155	145 - 165	158	153 - 163	6.2	5.7 - 6.7	122	117 - 127	0.56	0.46 - 0.66			283	253 - 313	6.4	4.9 - 7.9	
ABL 800, 805, 810, 815, 820, 825	7.58	7.55 - 7.61	23	19 - 27	155	145 - 165	158	153 - 163	6.2	5.7 - 6.7	122	117 - 127	0.56	0.46 - 0.66			283	253 - 313	6.4	4.9 - 7.9	
ICA, KNA 1							157	152 - 162	6.4	5.9 - 6.9			0.50	0.40 - 0.60							
EML 100, 105							157	152 - 162	6.2	5.7 - 6.7	121	116 - 126	0.54	0.44 - 0.64			273	243 - 303	6.5	5.0 - 8.0	
Roche																					
AVL Compact Series	7.55	7.52 - 7.58	23	19 - 27	157	146 - 168															
OMNI 1-9 ¹	7.57	7.54 - 7.60	24	20 - 28	153	141 - 165	161	156 - 166	6.5	6.0 - 7.0	127	122 - 132	0.52	0.42 - 0.62			293	258 - 328	7.3	5.8 - 8.8	
YSI																					
2300 Stat Plus																		297	267 - 327	7.3	5.8 - 8.8

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 64211

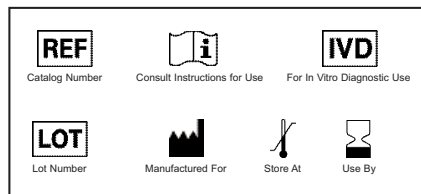
Exp.: 2009-11

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		
Bayer																						
238	7.81	7.77 - 7.85	12	8 - 16	476	416 - 536																
248	7.81	7.77 - 7.85	12	8 - 16	476	416 - 536																
400, 405	ORL ²		ORL ²		465	405 - 525	170	160 - 180	1.5	1.0 - 2.0	133	123 - 143	ORL ²				ORL ²					
840, 845, 850, 855, 860, 865	7.83	7.79 - 7.87	12	8 - 16	456	396 - 516	167	162 - 172	1.4	0.9 - 1.9	131	126 - 136	0.23	0.13 - 0.33			ORL ²		9.8	7.3 - 12.3		
614, 634, 644	7.81	7.77 - 7.85					168	163 - 173	1.6	1.1 - 2.1	135	130 - 140	0.20	0.10 - 0.30								
IL																						
1304, 1306, 1312	7.78	7.74 - 7.82	14	10 - 18	476	416 - 536																
BG3	7.79	7.75 - 7.83	12	8 - 16	486	426 - 546																
BGE	7.79	7.75 - 7.83	13	9 - 17	486	426 - 546	165	160 - 170	1.4	0.9 - 1.9	DNA ³		0.23	0.13 - 0.33								
1610, 1620, 1630, 1640, 1650	7.79	7.75 - 7.83	11	7 - 15	476	416 - 536	167	162 - 172	1.4	0.9 - 1.9			0.23	0.13 - 0.33								
Synthesis 10, 15, 20, 25, 30, 35	7.81	7.77 - 7.85	13	9 - 17	481	421 - 541	166	161 - 171	1.8	1.3 - 2.3	131	126 - 136	0.20	0.10 - 0.30			0	0 - 5				
Gem Premier	ORL ²		12	8 - 16	516	456 - 576	173	168 - 178	1.6	1.1 - 2.1			0.20	0.10 - 0.30								
Gem Premier 3000	ORL ²		11	7 - 15	476	416 - 536	177	172 - 182	1.4	0.9 - 1.9			0.12	0.02 - 0.22								
ITC																						
IRMA and IRMA TRUpoint	Contact ITC Technical Support or the ITC website (www.ITCMED.com) for assigned values																					
Medica																						
EasyBloodGas	7.79	7.76 - 7.82	12	8 - 16	449	399 - 499																
EasyStat	7.81	7.78 - 7.84	12	8 - 16	478	428 - 528	176	171 - 181	1.5	1.0 - 2.0	133	128 - 138	0.25	0.12 - 0.38								
Nova																						
Stat Profile 1-9	7.80	7.76 - 7.84	12	8 - 16	476	416 - 536	169	164 - 174	1.8	1.3 - 2.3	134	129 - 139	0.20	0.10 - 0.30			0	0 - 5	11.1	8.6 - 13.6		
Stat Profile 10	7.80	7.76 - 7.84	12	8 - 16	486	426 - 546	169	164 - 174	1.6	1.1 - 2.1	134	129 - 139					0	0 - 5	11.1	8.6 - 13.6		
Stat Profile Ultra	7.82	7.78 - 7.86	12	8 - 16	478	418 - 538	170	165 - 175	1.6	1.1 - 2.1	134	129 - 139	0.20	0.10 - 0.30	DNA ³		0	0 - 5	11.1	8.6 - 13.6		
Osmetech																						
OPTI 1	DNA ³		DNA ³		DNA ³																	
OPTI CCA	ORL ²		13	11 - 16	466	406 - 526	ORL ²		1.8	1.3 - 2.3	144	138 - 150	ORL ²						ORL ²			
OPTI R	ORL ²		13	11 - 16	472	412 - 532	ORL ²		1.2	0.7 - 1.7			ORL ²									
Radiometer																						
ABL 3, 30	7.82	7.78 - 7.86	12	8 - 16	451	391 - 511																
ABL 300, 330	7.81	7.77 - 7.85	13	9 - 17	446	386 - 506																
ABL 4	7.80	7.76 - 7.84	13	9 - 17	441	381 - 501			1.5	1.0 - 2.0												
ABL 5	7.79	7.75 - 7.83	12	8 - 16	506	446 - 566																
ABL 50, 500, 505, 510, 520	7.80	7.76 - 7.84	12	8 - 16	461	401 - 521	166	161 - 171	1.5	1.0 - 2.0	129	124 - 134	0.22	0.12 - 0.32								
ABL 600, 605, 610, 615, 620, 625	7.80	7.76 - 7.84	12	8 - 16	461	401 - 521	166	161 - 171	1.6	1.1 - 2.1	129	124 - 134	0.22	0.12 - 0.32			0	0 - 5	10.4	7.9 - 12.9		
ABL 700, 705, 710, 715, 720, 725	7.80	7.76 - 7.84	12	8 - 16	456	396 - 516	167	162 - 172	1.7	1.2 - 2.2	131	126 - 136	0.23	0.13 - 0.33			0	0 - 5	10.7	8.2 - 13.2		
ABL 800, 805, 810, 815, 820, 825	7.80	7.76 - 7.84	12	8 - 16	456	396 - 516	167	162 - 172	1.7	1.2 - 2.2	131	126 - 136	0.23	0.13 - 0.33			0	0 - 5	10.7	8.2 - 13.2		
ICA, KNA 1							166	161 - 171	1.5	1.0 - 2.0			0.22	0.12 - 0.32								
EML 100, 105							166	161 - 171	1.5	1.0 - 2.0	129	124 - 134	0.22	0.12 - 0.32			0	0 - 5	10.4	7.9 - 12.9		
Roche																						
AVL Compact Series	7.80	7.76 - 7.84	12	8 - 16	485	425 - 545																
OMNI 1-9 ¹	7.77	7.73 - 7.81	13	9 - 17	446	386 - 506	171	166 - 176	1.6	1.1 - 2.1	135	130 - 140	0.17	0.07 - 0.27					ORL ²		11.7	9.2 - 14.2
YSI																						
2300 Stat Plus																			0	0 - 5	11.9	9.4 - 14.4

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
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CVC 123 Calibration Verification Controls



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