

MISSION CONTROL™
Blood Gas and Electrolyte Control

Level 2

PN: DD-92002D

Expected Ranges Chart

LOT: MC-1005
 Exp: 2009/11

Blood Gas/ISE Analyzers	pH			pCO ₂ mmHg			pO ₂ mmHg			Na ⁺ mmol/L			K ⁺ mmol/L			Ca ⁺⁺ mmol/L			Cl ⁻ mmol/L			Li ⁺ mmol/L			tCO ₂ mmol/L					
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
AVL Scientific																														
945, 947	7.316	7.286	- 7.346	48	43	- 53	113	103	- 123																					
990, 995	7.316	7.286	- 7.346	48	43	- 53	111	101	- 121																					
Compact Series	7.326	7.296	- 7.356	49	44	- 54	111	101	- 121																					
982, 983, 985												140	135	- 145	4.3	3.9	- 4.8							1.00	0.85	- 1.15				
986												144	139	- 149	4.4	3.9	- 4.9						106	101	- 111					
984, 987	7.326	7.296	- 7.356									140	135	- 145	4.4	3.9	- 4.9	1.14	0.99	- 1.29										
OMNI	7.336	7.306	- 7.366	48	43	- 53	103	91	- 115	139	134	- 144	4.3	3.8	- 4.8	1.14	1.04	- 1.24	107	102	- 113									
9110, 9140	7.336	7.306	- 7.366									140	135	- 145	4.3	3.8	- 4.8	1.12	0.97	- 1.27										
9120, 9130												132	127	- 137	4.1	3.6	- 4.6						105	100	- 110					
9180, 9181												132	127	- 137	4.1	3.6	- 4.6	1.14	0.99	- 1.29	98	93	- 103	1.08	0.93	- 1.23				
Ciba-Corning/Bayer																														
238	7.350	7.320	- 7.380	48	42	- 54	105	95	- 115																					
248	7.346	7.316	- 7.376	48	42	- 54	100	90	- 110																					
348	7.346	7.316	- 7.376	48	42	- 54	108	98	- 118	136	131	- 141	4.2	3.7	- 4.7	1.14	0.99	- 1.29	105	100	- 110									
278	7.356	7.326	- 7.386	48	43	- 53	108	98	- 118																					
280	7.356	7.326	- 7.386	48	43	- 53	108	98	- 118																					
288	7.356	7.326	- 7.386	48	43	- 53	108	98	- 118	135	130	- 140	4.2	3.7	- 4.7	1.14	0.99	- 1.29	105	100	- 110									
664										137	132	- 142	4.2	3.7	- 4.7				103	98	- 108						26	22	- 30	
614, 644										136	131	- 141	4.2	3.7	- 4.7				104	99	- 109									
634	7.37	7.34	- 7.40														1.17	1.02	- 1.32											
654										136	131	- 141	4.2	3.7	- 4.7								1.00	0.85	- 1.15					
800 Series*	7.366	7.336	- 7.396	48	42	- 54	109	99	- 119	133	128	- 138	4.2	3.7	- 4.7	1.09	0.99	- 1.19	103	98	- 108									
Rapid 400, 405	7.366	7.336	- 7.396	48	42	- 54	109	99	- 119	133	128	- 138	4.2	3.7	- 4.7	1.09	0.99	- 1.19	103	98	- 108									
IL																														
1304, 1306, 1312	7.336	7.306	- 7.366	47	42	- 52	108	98	- 118																					
BG3	7.336	7.306	- 7.366	48	43	- 53	107	97	- 117																					
BGE	7.336	7.306	- 7.366	48	43	- 53	106	96	- 116	134	129	- 139	4.0	3.5	- 4.5	1.12	1.02	- 1.22	101	96	- 106									
1610, 1620	7.336	7.306	- 7.366	48	43	- 53	108	98	- 118																					
1630, 1640, 1650	7.336	7.306	- 7.366	48	43	- 53	105	95	- 115	136	131	- 141	4.0	3.5	- 4.5	1.12	1.02	- 1.22	101	96	- 106									
Synthesis 10, 15, 20, 25	7.336	7.306	- 7.366	44	39	- 49	113	103	- 123	136	131	- 141	3.9	3.4	- 4.4	1.12	1.02	- 1.22	101	96	- 106									
GEM Premier	7.335	7.305	- 7.365	49	44	- 54	111	101	- 121	138	133	- 143	4.1	3.6	- 4.6	1.14	0.99	- 1.29												
GEM 3000	7.335	7.305	- 7.365	49	44	- 54	111	101	- 121	138	133	- 143	4.1	3.6	- 4.6	1.14	0.99	- 1.29												
NOVA																														
Electrolyte Systems	7.346	7.316	- 7.376							138	133	- 143	4.3	3.8	- 4.8	1.14	1.04	- 1.24	105	100	- 110	1.06	0.91	- 1.21	26	22	- 30			
Stat Profile 1-5	7.346	7.316	- 7.376	48	41	- 55	103	93	- 113	137	132	- 142	4.3	3.8	- 4.8	1.14	1.04	- 1.24	101	96	- 106									
Radiometer																														
ABL 3, 30	7.346	7.316	- 7.376	47	42	- 52	111	101	- 121																					
ABL 300, 330	7.346	7.316	- 7.376	47	42	- 52	108	98	- 118																					
ABL 5	7.330	7.300	- 7.360	47	42	- 52	105	95	- 115																					
ABL 50, 500, 510, 520	7.336	7.306	- 7.366	48	43	- 53	110	100	- 120																					
ABL 505	7.336	7.306	- 7.366	48	43	- 53	110	100	- 120	135	130	- 140	4.2	3.7	- 4.7	1.16	1.06	- 1.26												
ABL 555	7.336	7.306	- 7.366	48	43	- 53	110	100	- 120	136	131	- 141	4.1	3.6	- 4.6	1.16	1.06	- 1.26												
ABL 600, 610, 620	7.336	7.306	- 7.366	48	43	- 53	110	100	- 120	135	130	- 140	4.2	3.7	- 4.7	1.16	1.06	- 1.26	99	94	- 103									
EML-100										135	130	- 140	4.2	3.7	- 4.7	1.16	1.06	- 1.26	98	93	- 103									
ABL 70, 77	7.350	7.320	- 7.380	47	42	- 52	103	93	- 113	139	134	- 144	4.3	3.8	- 4.8	1.12	1.02	- 1.22	97	92	- 102									
ABL 700 Series**	7.336	7.306	- 7.366	48	43	- 53	105	95	- 115	135	130	- 140	4.2	3.7	- 4.7	1.16	1.06	- 1.26	98	93	- 103									
i-STAT																														
BG, E+	7.350	7.320	- 7.380	48	43	- 53	110	100	- 120	138	133	- 143	4.3	3.8	- 4.8	1.16	1.06	- 1.26	101	93	- 106									
Medica, iLyte, Menarini																														
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/G/Li										139	134	- 144	4.3	4.0	- 4.6				101	96	- 106	1.09	1.03	- 1.15						

*Includes 840, 845, 850, 855, 860, 865 Analyzers

**Includes 705, 710, 715, 720, 725

Diamond Diagnostics recognizes all trademarks and copyrights referenced herein.

Manufacturer and Product Information

Diamond Diagnostics, 333 Fiske Street, Holliston, MA.

For Technical Assistance call:

Diamond Diagnostics Technical Services at 1-508-429-0450

- Intended Use:** MISSION CONTROL™ Blood Gas and Electrolyte Control is an assayed quality control material intended for monitoring the measurements of pH pCO₂, pO₂ in blood gas analyzers and sodium, potassium, chloride, lithium, ionized calcium and total carbon dioxide in ISE electrolyte analyzers.
- Product Description:** This control material is provided for monitoring analyzer performance. It is packaged in sealed glass ampules, each containing approximately 2 ml of solution. Ampules are packaged 10 per tray with each box containing 3 trays, for a total of 30 ampules per box.
- Active Ingredients:** MISSION CONTROL™ is a buffered solution of electrolytes (Na⁺, K⁺, Cl⁻, Ca⁺⁺, Li⁺, HCO₃⁻/CO₃⁻²). It has been equilibrated with specific levels of CO₂, O₂, and N₂. This control contains no human-based materials.

For *in vitro* diagnostics use.

Directions for Use

The control should be brought to a temperature of 20-23°C before use (see instructions regarding Expected Ranges). Allow at least four (4) hours for ampules to equilibrate to this temperature prior to testing.

For pH/blood gas values, the control should be analyzed within one (1) minute of opening. For electrolyte measurements, this product is stable for up to one (1) hour after opening.

Follow the procedures listed below:

1. Before use, hold the ampule at the top and bottom (with forefinger and thumb) and shake 15-20 times (about 10 seconds) to mix the solution. Tap the ampule to restore the liquid to the bottom on the ampule.
2. Open the ampule by snapping off the tip at the score. Use gauze, tissue, gloves, or an appropriate ampule opener to protect fingers from cuts.
3. Immediately introduce the liquid from the ampule to the analyzer. Follow the manufacturer's instructions for sampling a control material. Depending on the sampling procedure chosen, the following instructions apply:
 - a. Direct Aspiration: Sample the control directly from the ampule.
 - b. Syringe Transfer:
 - i. Use a clean, gas-tight syringe attached to a clean, blunt syringe needle (if available).
 - ii. Prime the syringe by slowly aspirating a small amount (0.2-0.3 ml) of solution from the ampule.
 - iii. Discard this liquid, leaving the dead space of the syringe filled with the control.
 - iv. Aspirate the control from the ampule into the primed syringe. Be careful that air is not drawn in with the liquid. Expel 1 to 2 drops, detach the needle and immediately inject the control into the analyzer sample port.
 - c. Ampule Injector/Dispenser: Assemble and fill the ampule injector following the manufacturer's instructions. Expel one or two drops to rinse the outlet tip and inject the control into the analyzer sample port.
 - d. Capillary Mode:
 - i. Install the appropriate adapter for micro sampling onto the instrument.
 - ii. Sample the contents of the ampule following the recommendations of the instrument manufacturer. Be certain to keep the sampling tip of the adapter below the surface of the liquid during aspiration.

Limitations**Limitation:**

1. This control is sensitive to many instrument related factors that affect analytical results. Because it is not a blood-based material, it may not detect certain malfunctions, which would affect the testing of blood.
2. This product is intended for use as a quality control material and can assist 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.

Storage:

Store at 18-25°C. Avoid freezing and exposure to temperatures greater than 30°C. You may also store at 4-25°C without adverse effect.

Expected Ranges:

The values for each control analyte on the enclosed Expected Ranges Chart are based on multiple determinations performed on randomly selected samples from each lot. The listing for each instrument represents the expected range for these ampules when tested at 23°C. (Note: pO₂ values will vary inversely by about one percent (1%) per degree C that the temperature of the ampules varies from 23°C.

The Expected Ranges are provided as a guide in evaluating analyzer performance. Since instrument design and operating conditions may vary, each laboratory should establish its own expected values and control limits. The mean value established should fall within the Expected Ranges shown on the chart.

