



# A1c Productivity for Demanding Workloads

## A Case Study

### Introduction

Workflow analysis of five A1c analyzers was performed by reviewing the Instructions for Use and operation manuals of the instrumentation. Using a hypothetical workload of 2,500 A1c samples, the analyzers were evaluated for sample throughput and the operator interventions required to process the samples. This comparative model provides insight into the relative productivity of the lab using each instrument.

### The Challenge

Clinical labs are under pressure to increase productivity. Selecting an A1c analyzer that requires fewer instrument interactions is key. But how can labs know which A1c analyzers are the most productive?

By comparing the number of operator interventions required to complete 2,500 A1c tests, labs can get a clearer picture of how an analyzer will impact their lab staff on a daily basis.

### The Solution

The VARIANT II TURBO System runs with fewer operator interventions. The other analyzers reviewed require more reagent changes, cartridge changes & calibrations, and cleaning procedures. These tasks require operator interventions that interrupt sample processing and are time consuming.

The VARIANT II TURBO System improves productivity compared to other A1c systems by reducing redundant, low-value tasks and labor hours.

### Race to Release 2,500 HbA1c Results



The "Race to Release 2,500 HbA1c Results" video explores the VARIANT II TURBO System performance in an animated story. Watch the video at [www.bio-rad.com/v2turbo-raceto2500](http://www.bio-rad.com/v2turbo-raceto2500)

# Operator interventions to run 2,500 tests

The chart below illustrates the operator interventions required to complete 2,500 A1c tests. Most A1c analyzers require frequent reagent changes and prefilter replacements; some even require calibration and cleaning steps. These frequent stops slow down productivity and require significant hands-on time to complete.

As your A1c test volume increases, you want a system that can handle the growing workload.

The VARIANT II TURBO System runs up to 2,500 A1c tests with the fewest operator interventions.

VARIANT II TURBO System 11 interventions			Tosoh G8 24 interventions			Arkray 8180 20 interventions			Sebia Capillarys 2 30 interventions			Trinity Hb9210 97 interventions		
Injections	Task		Injections	Task		Injections	Task		Injections	Task		Injections	Task	
0	Start	🚩	0	Start	🚩	0	Start	🚩	0	Start	🚩	0	Start	🚩
400	Reagent	👤	400	Prefilter	👤	500	Prefilter	👤	200	Prefilter	👤	100	Calibrate	🔧
500	Prefilter	👤	500	Reagent	👤	500	Reagent	👤	300	Reagent	👤	125	Reagent	👤
800	Reagent	👤	600	Reagent	👤	500	Reagent	👤	400	Prefilter	👤	166	Reagent	👤
800	Reagent	👤	600	Reagent	👤	500	Reagent	👤	500	Capiclean	🔧	166	Reagent	👤
1000	Prefilter	👤	600	Reagent	👤	500	Reagent	👤	600	Prefilter	👤	200	Calibrate	🔧
1200	Reagent	👤	800	Prefilter	👤	1000	Prefilter	👤	600	Reagent	👤	250	Reagent	👤
1500	Prefilter	👤	1000	Calibrate	🔧	1000	Reagent	👤	600	Reagent	👤	250	Reagent	👤
1600	Reagent	👤	1000	Reagent	👤	1000	Reagent	👤	600	Calibrate	🔧	250	Cartridge	👤
1600	Reagent	👤	1200	Prefilter	👤	1000	Reagent	👤	800	Prefilter	👤	250	Prefilter	👤
2000	Prefilter	👤	1200	Reagent	👤	1000	Reagent	👤	900	Reagent	👤	300	Calibrate	🔧
2000	Reagent	👤	1200	Reagent	👤	1500	Prefilter	👤	1000	Prefilter	👤	333	Reagent	👤
2500	Finish	🏁	1200	Reagent	👤	1500	Reagent	👤	1000	Capiclean	🔧	333	Reagent	👤
			1500	Reagent	👤	1500	Reagent	👤	1200	Reagent	👤	375	Reagent	👤
			1600	Reagent	👤	1500	Reagent	👤	1200	Reagent	👤	400	Calibrate	🔧
			1800	Reagent	👤	1500	Reagent	👤	1200	Prefilter	👤	500	Calibrate	🔧
			1800	Reagent	👤	2000	Prefilter	👤	1200	Calibrate	🔧	500	Reagent	👤
			1800	Reagent	👤	2000	Reagent	👤	1400	Prefilter	👤	500	Reagent	👤
			2000	Calibrate	🔧	2000	Reagent	👤	1500	Reagent	👤	500	Reagent	👤
			2000	Reagent	👤	2000	Reagent	👤	1500	Capiclean	🔧	500	Reagent	👤
			2000	Reagent	👤	2000	Reagent	👤	1600	Prefilter	👤	500	Cartridge	👤
			2000	Prefilter	👤	2500	Finish	🏁	1800	Reagent	👤	500	Prefilter	👤
			2400	Prefilter	👤				1800	Reagent	👤	600	Calibrate	🔧
			2400	Reagent	👤				1800	Prefilter	👤	625	Reagent	👤
			2400	Reagent	👤				1800	Calibrate	🔧	666	Reagent	👤
			2400	Reagent	👤				2000	Prefilter	👤	666	Reagent	👤
			2500	Finish	🏁				2000	Capiclean	🔧	700	Calibrate	🔧
									2100	Reagent	👤	750	Reagent	👤
									2400	Calibrate	🔧	750	Reagent	👤
									2400	Reagent	👤	750	Cartridge	👤
									2400	Reagent	👤	750	Prefilter	👤
									2500	Finish	🏁	800	Calibrate	🔧
												2375	Reagent	👤
												2400	Calibrate	🔧
												2500	Finish	🏁

Data on file. Interactions were evaluated by reviewing each of the assays' respective Instructions for Use and product documentation. For informational purposes only and not intended to provide medical advice or diagnosis.

Visit [bio-rad.com/V2T](http://bio-rad.com/V2T) for more information.

BIO-RAD and VARIANT are trademarks of Bio-Rad Laboratories, Inc. in certain jurisdictions. All trademarks used herein are the property of their respective owner.



Clinical  
Diagnostics Group

**Website** [www.bio-rad.com/diagnostics](http://www.bio-rad.com/diagnostics) **U.S.** 1 800 224 6723 **Australia** +61 (2) 9914 2800 **Austria** +43 (0) 1 877 89 01 9 **Belgium** +32 (0) 3 710 53 00  
**Brazil** +55 11 3065 7550 **Canada** +1 514 334 4372 **China** +86 21 6169 8500 **Czech Republic** +420 241 431 660 **Denmark** +45 44 52 10 00  
**Finland** +358 9 804 22 00 **France** +33 (0)1 47 95 60 00 **Germany** +49 (0) 89 31884 393 **Greece** +30 210 7774396 **Hong Kong** +85 2 2789 3300  
**Hungary** +36 1 459 6190 **India** +91 124 4029300 **Israel** +972 03 963 6025 **Italy** +39 024 94 86 600 **Japan** +81 3 6361 7070 **Korea** +82 080 007 7373  
**Mexico** +52 (55) 5488 7670 **The Netherlands** +31 (0)318 540 666 **New Zealand** +64 (9)415 2280 **Norway** +47 23 38 41 30 **Poland** +48 22 331 99 99  
**Portugal** +351 21 47 27 700 **Russia** +7 495 721 1404 **Singapore** +65 6415 3170 **South Africa** +27 11 442 8508 **Spain** +34 91 490 6580  
**Sweden** +46 844 98053 **Switzerland** +41 (0) 61 717 9555 **Taiwan** +886 (2) 2578-7189 **Thailand** (662) 651 8311 **United Kingdom** +44(0)1923 471301

