

# BIOPTIMAL'S NEEDLELESS CLOSED BLOOD SAMPLING SYSTEMS

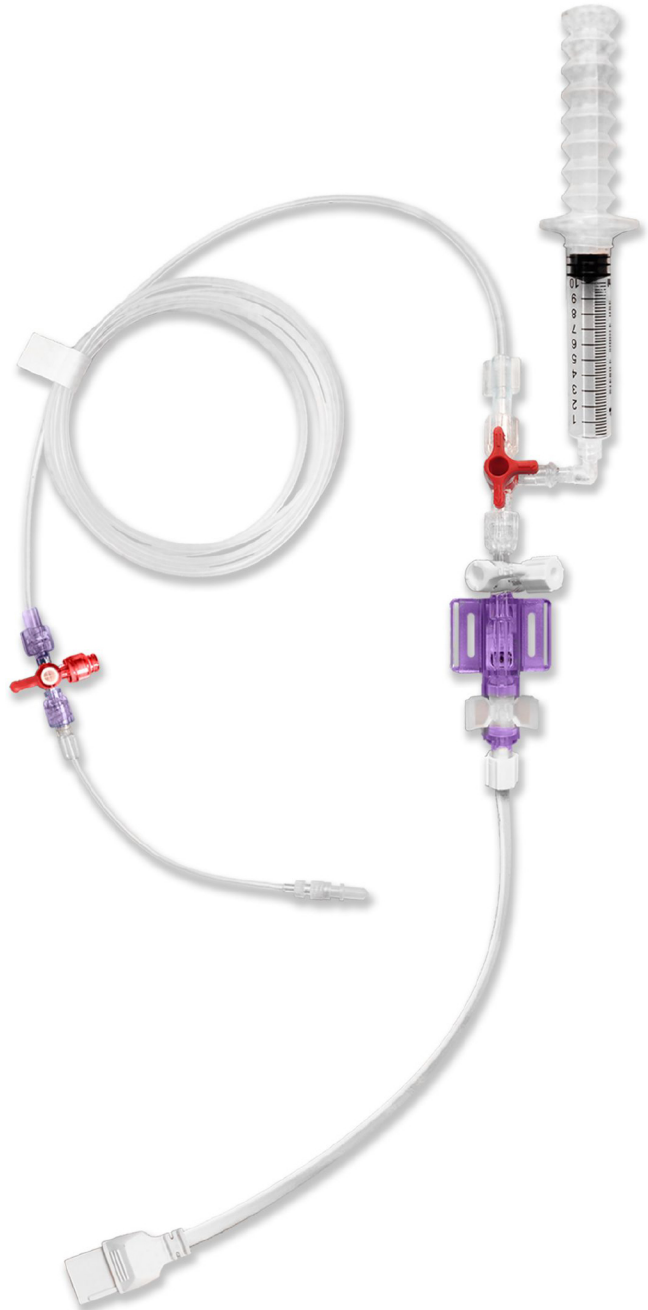
## PRODUCT INTRODUCTION

A closed in-line arterial and venous sampling system designed to reduce unnecessary blood discard and blood spillage hence reduces risk of iatrogenic anaemia and cross contamination.

The pressure monitoring system combines an In-Line Reservoir for waste collection and a stopcock with Marvelous™ handle that enables flushing the line and syringe tip with minimal residual volume.

The In-Line Reservoir eliminates the discarding of waste taken through the set prior to the blood sampling. The entire clearing volume is reinfused to the patient upon completion of the sampling process in a safe manner that minimizes contamination.

This system reduces risk of infection or line contamination when compared to open (or stopcock) sampling devices. Bioptimal's needle-free closed blood sampling system that is customisable for adult and paediatric patients in which protects both clinician and patient.

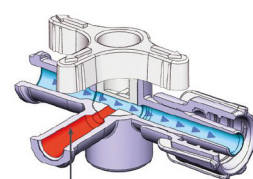


## PRODUCT BENEFITS

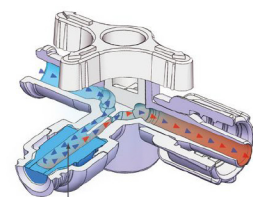
- Closed sampling system reduces the risk of nosocomial infection or line sepsis.
- Needleless sampling system reduces the risk of blood spillage during sampling.
- One-handed operation of reservoir syringe makes the system easy to use.
- Two sampling sites in one kit (for use in critical care facilities - ICU and OR).
- Predetermined drawback volumes hence minimising blood waste.
- Integrated reservoir syringe conserves precious blood volume of the patient (small volume blood loss can be critical for neonatal patients).
- Safety for Clinicians- reduces potential exposure from needle stick injury, minimising clinician's exposure to patient blood.
- Maintains continuous patient blood pressure monitoring before and after blood sampling.

A clear, pure blood sample can be easily drawn for accurate lab analysis.

Property	Units	Marvelous for monitoring applications <sup>1</sup> (standard flow)	Marvelous for IV application <sup>1</sup> (high flow)
Flow <sup>2</sup> rate at "All open" position	[ml/min]	140±5	200±5
Flow <sup>2</sup> rate while side port closed	[ml/min]	70±5	105±5
Flow <sup>2</sup> rate from side port to male Luer	[ml/min]	135±5	175±5
Side port volume	[ml]	0.2±0.02	0.2±0.02



Trapped fluid or air in side port



Constant flushing of the side port

<sup>1</sup> For acceptable quality levels refer to spec # 0022-G

<sup>2</sup> Flow was measured under 75 mmHg pressure / 1 meter water pressure

Product Code	Product Description	Integral Flush Device	Extension Tubing	Distal tubing	Standard Pack size
AT 8006-3-MV	Single DPT System(Adult) with Closed Arterial Blood Sampling	3cc/hr	80" (203cm)	06" (15cm)	5pcs / box
AT 4812-3-MV2	Single DPT System(Adult) with Dual Closed Arterial Blood Sampling	3cc/hr	48" (122cm)	12" (30cm)	5pcs / box
AT2 7212-3-MV2	Bifurcated DPT System(Adult) with Closed Blood Sampling	3cc/hr	72" (183cm)	12" (30cm)	5pcs / box
AT3 7212-3-MV2	Trifurcated DPT System(Adult) with Closed Blood Sampling	3cc/hr	72" (183cm)	12" (30cm)	5pcs / box
AT 8006-30-MV	Paediatrics-Single DPT System with Closed Arterial Blood Sampling	30cc/hr	80" (203cm)	06" (15cm)	5pcs / box
AT BC-248A	Single DPT System(Adult) with Closed Arterial Blood Sampling	3cc/hr	48" (122cm)	12" (30cm)	5pcs/box
AT2 BC-248A	Bifurcated DPT System(Adult) with Closed Blood Sampling	3cc/hr	48" (122cm)	12" (30cm)	5pcs/box