

**Specifications**  
**Environmental Performance**

Storage Temperature	- 25°C to + 70°C (- 13°F to 158°F)
Operating Temperature	+ 15°C to + 40°C (59°F to 104°F)
Operating Atmospheric Pressure	10% to 90% non-condensing
Operating Atmospheric Pressure	425 to 850 Torr

**Mechanical Specifications**

Pressure Range	- 30 to 300 mmHg
Overpressure Withstand	- 400 mmHg to + 4000 mmHg
Mounting	Any axis

**Safety Features**

Risk Current	Less than 5 uA
Defibrillation Withstand	5 discharges in 5 minutes @ 360J

**Electrical Performance**

Transducer Excitation Voltage	4 to 8 volts RMS
Transducer Supply Frequency	DC to 5000 Hz
Phase Shift	< 5°
Transducer Excitation Impedance	300 to 400 ohms
Transducer Signal Impedance	250 to 350 ohms
Transducer Symmetry	+/- 5%
Accuracy	Meets AAMI / ANSI BP22 (1994) Standard
Sensitivity	5 uV/mmHg
Zero Drift After 5 min Warm-up	< 2 mmHg in 4 hrs
Zero Shift due to Temperature	+/- 10 mmHg maximum*
Light** Sensitivity @ 0 mmHg	< 1 mmHg
Mechanical Shock Withstands	Withstand 3 falls from 1 meter

\*from 15°C to 40°C (59°F to 104°F) using 25°C (77°F) as a reference.  
\*\*3,000 foot-candles generated by 3,400K Tungsten source.

**Contents**

All kits include a sterile BIOTRANS™ disposable Twist-On Dome with integral 3- or 30cc/hr flush device with Fast Flush and pressure relief functions. The table below identifies additional components included in sterile, packaged single-use Pressure Monitoring Kits by catalog number. All Luers are supplied protected with vented caps. All required non-vented caps are supplied in a separate pouch within each kit package.

Product Code	Description	Integral Flush Device*	Extension Tubing	Stopcock	Distal Tubing
BTR	Standalone DPT Without Flush Device	None	None	None	None
BTR-30**	Standalone DPT With Flush Device (Infant/Neonatal)	30 cc/hr	None	None	None
BTR-3	Standalone DPT With Flush Device (Adult)	3 cc/hr	None	None	None
BTR 4812-3	Single Monitoring Kit System (Adult)	3 cc/hr	48" (122cm)	3-way	12" (30cm)
BTR2 4812-3	Bifurcated Monitoring Kit System (Adult)	3 cc/hr	48" (122cm)	3-way	12" (30cm)
BTR3 4812-3	Trifurcated Monitoring Kit System (Adult)	3 cc/hr	48" (122cm)	3-way	12" (30cm)
BTR 6012-3	Single Monitoring Kit System with 60" extension tubing (Adult)	3 cc/hr	60" (152cm)	3-way	12" (30cm)

\*Flush rates indicated are nominal and were obtained with 300mmHg pressure.  
Fast Flush rates vary with the type of administration set and length and lumen diameter of the monitoring tubing catheter.  
\*\*Kits supplied with 30cc/hr (yellow banded) flush devices are intended for infant and neonatal applications.  
Note: Please contact our Bioptimal Sales Representative for custom kits to meet your special requirements.

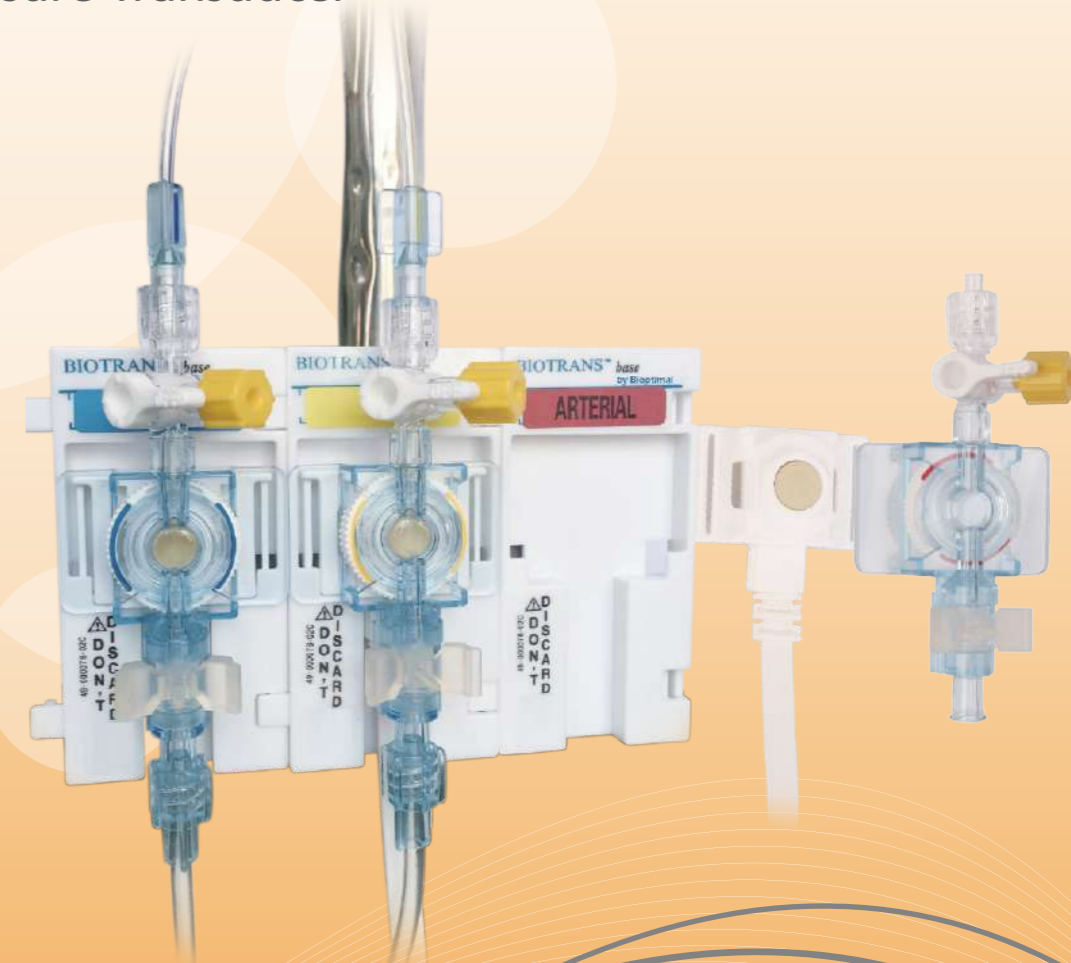
**Reusable BIOTRANS™ Accessories**

Product Code	Description
HM650-150	Vertical Mounting Clamp for IV Poles up to 4cm diameter
HM650-150-H	Horizontal Mounting Clamp for IV Poles up to 4cm diameter
HM650-150-R	Rotatable Mounting Clamp for IV Poles up to 4cm diameter in both vertical and horizontal application
BT-201	BIOTRANS II Sensor Base(reusable) with integrated 25cm sensor cable is designed for patient or pole mount applications
PMA-1	Replacement Docking Bracket that holds 1 transducer at one time
3-in-1 Backplate	Transducer Holder that holds up to 3 transducers at one time
MAC-XX***	3.05m(10Ft) Monitor Adapter Interface Cable for specific brands of monitors

\*\*\*Please contact your Bioptimal representative for assistance.

# BIOTRANS™

## Blood Pressure Transducer



# BIOTRANS™

The Disposable / Reusable Blood Pressure Transducer System

Performance in a  
**cost-effective package.**

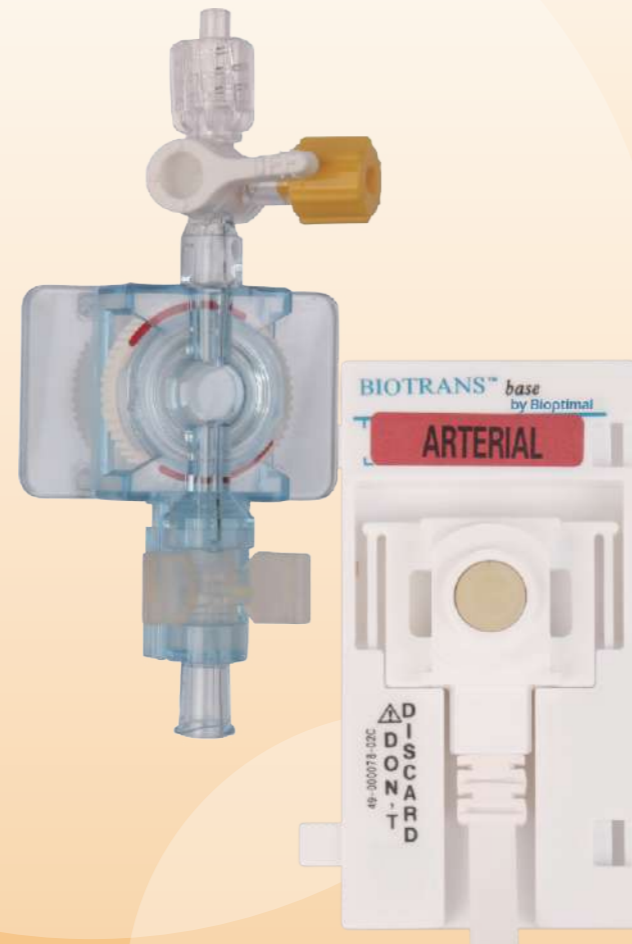


## Delivering greater convenience and cost savings in your environment

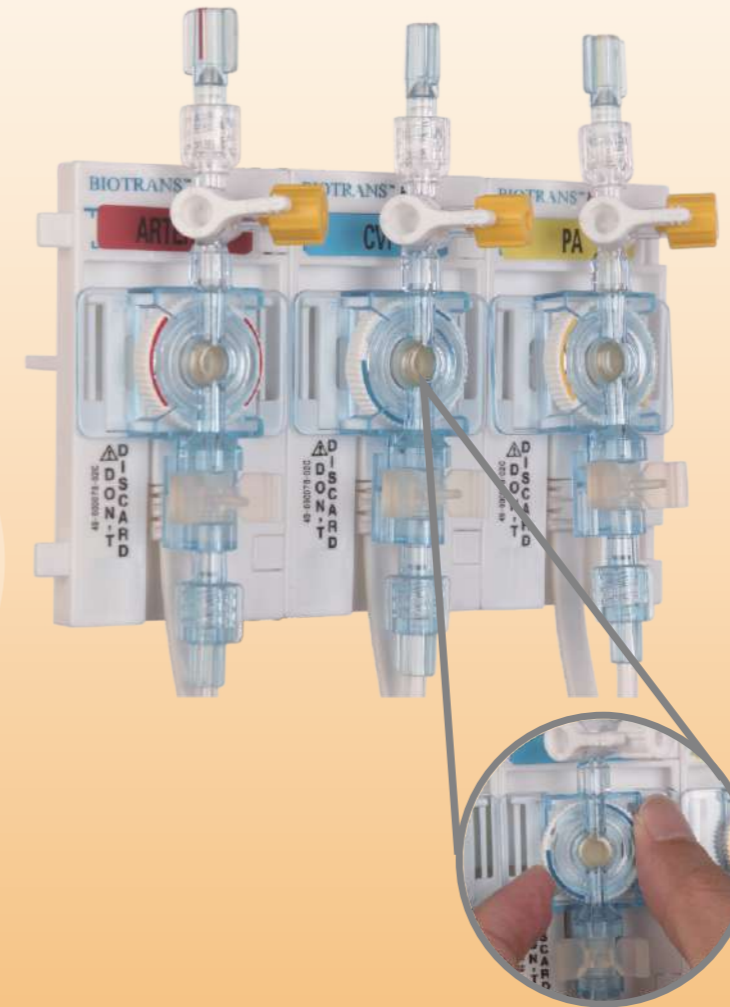
BIOTRANS™ provides superior performance in many hospital environments—including the accounting departments. That's because BIOTRANS™ is the blood pressure transducer that combines the performance, quality and ease-of-use of a fully disposable blood pressure transducer with cost savings of a reusable system.

BIOTRANS™ also incorporates a number of intelligent and exclusive features for saving care-givers valuable time. TOUCH CHECK™, for example, lets you quickly check the operating status of your BIOTRANS™ re-usable, its pressure display after one use, after multiple uses, or at the time of the monitoring procedure. You simply won't find anything like TOUCH CHECK™ on conventional disposable transducers.

BIOTRANS™ was also engineered to help save the environment. Unlike fully disposable transducers, BIOTRANS™ disposable pressure monitoring kits contain no heavy metal wastes.



## Flexibility is the driving force behind our modular, "twist on" locking-dome design



BIOTRANS™ was designed to work in the most challenging monitoring environments including OR/Anesthesia, ICU, ER, and Cath Lab. For greater versatility, the BIOTRANS™ transducer with its unique twist on dome and reusable sensor can be pole-mounted in single or multiple sets. Alternatively, BIOTRANS™ is a re-usable sensor that is small enough to fit comfortably on a patient's arm.

BIOTRANS™ is easily transported from one environment to another, with two conventional methods to choose from. First, you can unlock the pressure monitoring dome with its integral sterile isolating membrane. Second, you may choose to move the entire transducer and cable, as it is typically done with a disposable transducer. This flexibility can save substantial nursing time and related set-up costs.

## At work for your environment BIOPTIMAL Innovation service and care for the environment

BIOTRANS™ sensors are designed for years of rugged use in your hospital environment while minimizing biological waste. Standard and custom kits are available to meet your specific monitoring needs.

Every BIOPTIMAL product is backed by our comprehensive warranty – plus expert service and support that continue long after your purchase.

To discover how we can transform your environment, please contact us at the location shown overleaf.



**Specifications**  
**Environmental Performance**

Operating Temperature	+15°C to +45°C (59°F to 104°F)
Operating Humidity	10% to 90% non-condensing
Operating Atmospheric Pressure	400 mmHg to 850mmHg

**Mechanical Specifications**

Pressure Range	- 30 to 300 mmHg
Overpressure Withstand	- 400 mmHg to + 4000 mmHg
Mounting	Any axis

**Safety Features**

Risk Current	Less than 5mA
Defibrillation Withstand	5 cycles in 5 minutes @ 360J

**Electrical Performance**

Transducer Excitation Voltage	1 Vrms to 10 Vrms
Transducer Supply Frequency	DC to 5000 Hz
Phase Shift	<5°
Transducer Excitation Impedance	1200Ω to 2200Ω
Transducer Signal Impedance	285Ω to 375Ω
Transducer Symmetry	- 5% to + 5%
Accuracy	Meets AAMI / ANSI BP22 (1994) Standard
Sensitivity	4.95 μ VV/mmHg to + 5.05 μ VV/mmHg
Zero Drift After 5 min Warm-up	<1mmHg in 4 hrs
Temperature Sensitivity Coefficient	<0.1%/C
Zero Offset	-20 mmHg to + 20 mmHg
Light Sensitivity	<1 mmHg
Mechanical Shock (2ms sine, 3 axis)	500g
Vibration (20Hz to 2kHz, 1 octave/min, 3 axis)	20g

**Contents**

All kits include sterile ACCUTRANS disposable pressure transducer with integral 3- or 30cc/hr flush device with Fast Flush and pressure relief functions. The table below identifies additional components included in sterile, packaged single-use Pressure Monitoring Kits by catalog number. All Luers are supplied protected with vented caps. All required non-vented caps are supplied in a separate pouch within each kit package.

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AT 6012-3	Single DPT System with 60" extension tubing (Adult)	3 cc/hr	60" (152cm)	3-way	12" (30cm)

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**Reusable ACCUTRANS Accessories**

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HM650-150-R	Rotatable Mounting Clamp for IV Poles up to 4cm diameter in both vertical and horizontal application
PMA-1	Transducer Holder that holds 1 transducer at one time
3-in-1 Backplate	Transducer Holder that holds up to 3 transducers at one time
MAC-XX***	3.05m (10Ft) Monitor Adapter Interface Cables for specific brands of monitors

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www.bioptimalg.com



Innovative ease-of-use in the critical care arena.

# ACCUTRANS

## Disposable Blood Pressure Transducer



**Bioptimal™**

# ACCUTRANS

Disposable Blood Pressure Transducer

Innovative ease-of-use  
in the critical care arena.



## Features

### Tubing and lines

Optional color-coded  
for easy identification

### Small and Lightweight

Ideal for both pole mount  
and patient mount applications

### Transparent Body

Clear Fluid path visibility  
for debubbling

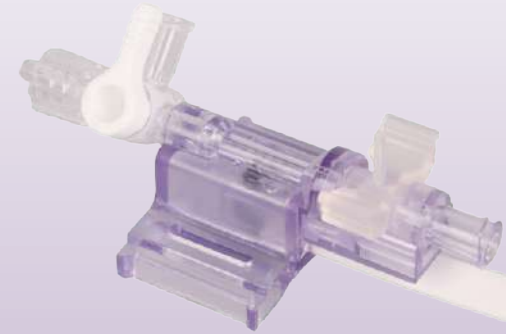
### Two Types of Flush

Controlled squeeze or pull-tab  
snap (*dynamic waveform test*)



## Benefits

- Completely compatible with current Biotrans II accessories.
- Available in standard or custom kit configurations.
- Infant & Neonatal customized kits configurations are available.
- Convenient, easy to set-up and use.



## ACCUTRANS Accessories



Fully compatible with accessories from  
the existing Biotrans II Transducer System.

## ACCUTRANS Transducer Interface Cable



Bioptimal has the full range of transducer interface cables  
that is compatible to all commonly-used patient monitors in  
the market.

Bioptimal makes ordering and stocking your monitoring  
components easy. Whether you require a standard kit, or  
prefer a customized version, we are prepared to respond  
to your critical care monitoring needs.

## Bioptimal International

Since 1990, Bioptimal International has been a leader in the design, research, development and distribution of innovative medical devices including blood pressure monitoring system and therapeutic cardiovascular catheters.

The launch of ACCUTRANS reassures our customers that we are still anticipating to your increasing needs for innovative and ease-of-use Disposable Pressure Transducer.

By introducing ACCUTRANS to our existing products, we are offering one of the most comprehensive product ranges in the critical care arena.



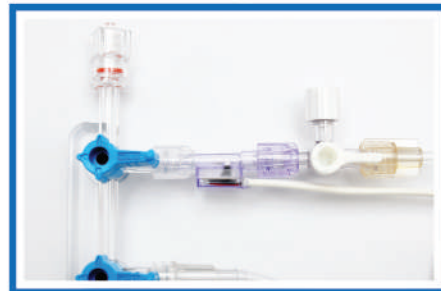
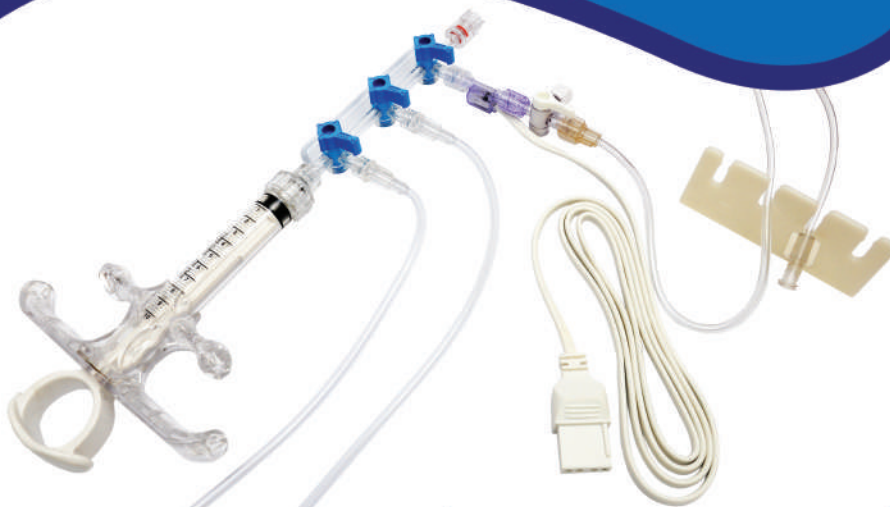


**Bioptimal™**

# CATRANS

**Angiographic System with  
Integrated Disposable Transducer**  
for Cardiac Catherization Labs

- More accurate waveforms
- Precise waveform fidelity
- Quick and easy priming, debubbling and visualisation
- Kits are assembled to specifications



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## Uncompromised Quality and Reliability

Drawing upon our sound track record as a specialized pulmonary artery catheter manufacturer, Biopital International is complementing the existing range of right heart catheters with a new addition – bipolar pacing catheter.

The development of the bipolar pacing catheter for temporary transvenous cardiac pacing brings about the Biopital's experience in this field.

The launch of this product is in response to market demand for a safe, secure and accurate bipolar pacing catheter to support critical procedures in the Cath Lab, CCU and Emergency Room settings.

## Safe, Sure and Accurate

When safety and accuracy are paramount during critical procedures, cardiologists and electro-physiologists know they can count on Biopital's bipolar pacing catheters.

Medical practitioners can work with confidence in determining the depth of catheter insertion as the length of the tubing is marked in 10cm increments. Radiopaque polyurethane tubing facilitates the use of fluoroscope for greater accuracy in catheter insertion and in verifying the position of the catheter.

Added safety is ensured by a lumen incorporated into the catheter to provide electrical conductor isolation from electrodes to the connector pins. An optional inflation balloon – located at the distal tip – can be inflated to enable safe flotation of the catheter to the right ventricle.



## Specifications

Product Code	Catheter Size	Catheter Length	Inflated Balloon Capacity	Maximum Inflation Diameter	Electrode Width	Electrode Spacing	Contamination Shield	Recommended Introducer Size
<b>WITH BALLOON</b>								
BP2502-10	5F	110cm	1cc	9mm	3mm	10mm	NA	6F
BP2502CS-10	5F	110cm	1cc	9mm	3mm	10mm	110cm	6F
<b>WITHOUT BALLOON</b>								
BPX2502-10	5F	110cm	NA	NA	3mm	10mm	NA	6F
BPX2502CS-10	5F	110cm	NA	NA	3mm	10mm	110cm	6F

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[www.biopitalg.com](http://www.biopitalg.com)



**Secure, accurate device** for critical procedures.

# BIPOLAR

Pacing Catheter



**BiopTimal™**



# Thermodilution Catheter

## Pulmonary Artery Monitoring Catheter and Biotray



Eliminating the risk of Pulmonary Artery Rupture.

Product	Material	Catheter Size	Lumen	Length	Balloon Volume(cc)	Thermistor Resistance (ohms)	Recommended Introducer Size	Radiopacity	
<b>THERMODILUTION CATHETER</b>									
TD1504N	PVC	5F	4	90 cm	0.75	14K	6F	Sufficiently opaque to appear visible under conventional fluoroscope illumination while in vivo	
TD2504N	PU	5F	4	90 cm	0.75	14K	6F		
TD1604N	PVC	6F	4	110 cm	1.00	14K	7F		
TD2604N	PU	6F	4	110 cm	1.00	14K	7F		
TD1704N	PVC	7F	4	110 cm	1.50	14K	8F		
TD2704N	PU	7F	4	110 cm	1.50	14K	8F		
TD1755N	PVC	7.5F	5	110 cm	1.50	14K	8.5F		
TD2755N	PU	7.5F	5	110 cm	1.50	14K	8.5F		
<b>PA MONITORING CATHETER</b>									
TD1502N	PVC	5 Fr	2	90 cm	0.75	N/A	6F		
TD2502N	PU	5 Fr	2	90 cm	0.75	N/A	6F		
TD1602N	PVC	6 Fr	2	110 cm	1.00	N/A	7F		
TD2602N	PU	6 Fr	2	110 cm	1.00	N/A	7F		
TD1702N	PVC	7 Fr	2	110 cm	1.50	N/A	8F		
TD2702N	PU	7 Fr	2	110 cm	1.50	N/A	8F		
TD1603N	PVC	6 Fr	3	110 cm	1.00	N/A	7F		
TD2603N	PU	6 Fr	3	110 cm	1.00	N/A	7F		
TD1703N	PVC	7 Fr	3	110 cm	1.50	N/A	8F		
TD2703N	PU	7 Fr	3	110 cm	1.50	N/A	8F		

### SPECIAL FEATURES

Optional Features	Suffix	Description
SAFETYWEDGE™	D	Catheter with SAFETYWEDGE™
Contamination Sleeve	X	Catheter without contamination sleeve
Non-coated tubing	N	Catheter with no coating on tubing
Stiff Body Tubing	F	Catheter with stiffer tubing

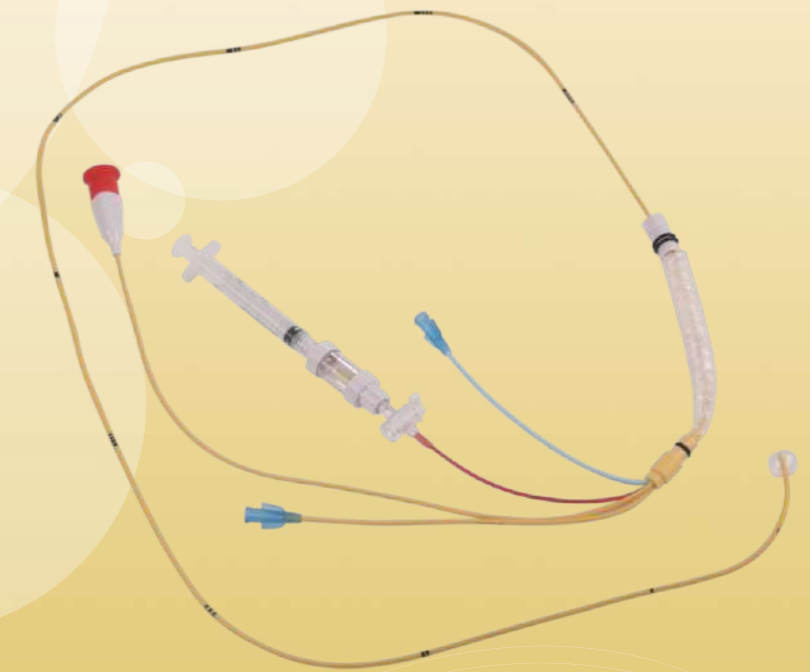
SAFETYWEDGE™ covered by U.S. Patent No. 5,007,919

1. Thomas Santora, MD; William Ganz, MD; Julian Gold, MD; Mark Wittman, MD; Beverley Leyerle, RN; H.J.C. Swan, MD, PhD; M. Michael Shabot, MD, "New method for monitoring pulmonary artery catheter location," "Critical Care Medicine". Vol. 19, No. 3, p. 422, 1991.

2. Jean-Francois Hardy, MD; Martin Morissette, MD; Jean Taillefer, MD; Rene Vauclair, MD; "Pathophysiology of Rupture of the Pulmonary Artery by Pulmonary Artery Balloon-Tipped Catheters," "Anesthesia & Analgesia". Vol. 62, p. 925, 1983.

# Thermodilution Catheter

## Pulmonary Artery Monitoring Catheter and Biotray



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**Biopital™**



# Thermodilution Catheter

## Pulmonary Artery Monitoring Catheter and Biotray

Eliminating the risk  
of Pulmonary Artery Rupture.



### About SAFETYWEDGE™ Thermodilution Catheter

An unprecedented level of safety for balloon inflation.

Catheter tips often migrate to small arterial branches that are unable to safely accommodate inflated balloons.

SAFETYWEDGE™ thermodilution catheters virtually eliminate the risk of pulmonary artery rupture due to balloon overpressurization - the most serious complication associated with PA catheter monitoring.

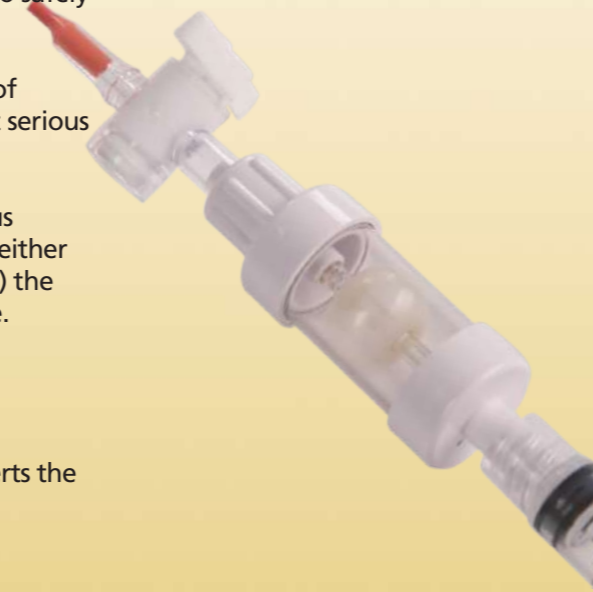
SAFETYWEDGE™ catheters reduce the risk of this potentially dangerous situation by facilitating inflation of the SAFETYWEDGE™ device when either (1) the distal balloon encounters abnormal resistance to inflation, or (2) the pressure inside the distal balloon exceeds the normal inflation pressure.

SAFETYWEDGE™ component acts as a pressure relief valve to prevent overpressurization of the distal balloon.

This not only averts vessel rupture but balloon rupture as well, and alerts the clinician to reposition the catheter.

#### Features and Benefits

- SAFETYWEDGE™**  
 Exclusive Safety balloon acts as pressure relief valve to prevent overpressurization of the balloon.
- Contamination Shield**  
 Provides a protective barrier against contamination of the catheter during catheter insertion and manipulation.
- Medication Lumen**  
 Permits blood sampling, fluid and drug administration and central venous pressure monitoring (7.5 French catheter only).
- Thermistor Connector**  
 Compatible with commonly used cardiac output computers, also used to monitor pulmonary artery blood temperature.
- PA Distal Lumen**  
 Allows mixed venous blood sampling, and measurements of pulmonary artery and pulmonary capillary wedge pressure.
- Distal Balloon**  
 Provides excellent symmetry and tip coverage for the safe flotation of the catheter and for pulmonary capillary wedge pressure measurements.
- CVP Proximal or Injectate Lumen**  
 Carries cardiac output injectate solution to right atrium. Accommodates blood sampling, fluid and drug administration and - when attached to a pressure transducer - monitor of right atrium pressure.



### SAFETYWEDGE™ Thermodilution Catheter with the Biotray

Reducing the Serious Risk of Pulmonary Artery Rupture.

The BioTray contains all the necessary supplies used with the SAFETYWEDGE™ thermodilution catheter. Value added benefits:

- Elimination of the sheath-catheter size compatible issue
- Ease of use
- Convenience
- Easier inventory control
- Elimination of nursing cover as the tray can be opened in a sterile area
- All components matched by BIOPTIMAL for optimum compatibility

#### Contents of the Biotray

Features high quality products at lower costs, saves time and reduces supply inventories.

- One Thermodilution Catheter / PA Monitoring Catheter
- Contamination Shield
- SAFETYWEDGE™ Balloon Device
- Venous Introducer with Dilator
- Guidewire (0.035")
- Needle 18G x 2 1/2"
- Needle 18G x 2 1/2" OTN Catheter
- Paper Towel 17 x 22"
- Gauze Swab
- Syringe Luer Slip 5cc
- Scalpel #11 Short
- Needle 25G
- Needle 22G
- Drape Minor Proc. Fen 22 x 22"
- Syringe
- Suture, Silk

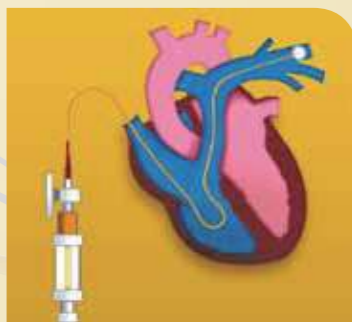
#### Advantage of PU catheter

- Polyurethane performs better against thrombosis, eliminating the need for Heparin coating.
- Polyurethane is tough, biocompatible, and hemocompatible. Polyurethane also outperforms many other materials in flexibility, tear resistance and abrasion resistance. Polyurethane is stiff when insert the catheter however after it goes into vein and contacts blood it will become soft which can reduce the risk of damage and injury to the vein wall.
- The use of Polyurethane in Biotray's thermodilution catheters eliminates the problems associated with other materials such as PVC, where the dangers of leachable plasticizers has become a concern.
- Polyurethane is radiopaque material which can be detected clearly to ensure correct placement of the catheter.

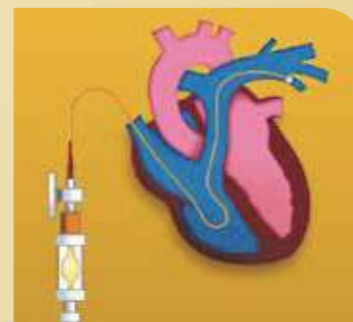


#### Total Package, Total Solution

Enjoy the benefits of the SAFETYWEDGE™ thermodilution catheter in a convenient, fully accessorised all-in one tray.



Correct catheter position, with SAFETYWEDGE™ device in READY mode.



Catheter tip migration into small PA branch, SAFETYWEDGE™ device activated upon attempt to inflate distal balloon.





**Specifications**

Product Code	Catheter Size	Gauge Size	Length(cm)							Spring Guidewire (J-Tip)			Dilator	Introducer Needle	
			6	8	10	13	16	20	30	Size				18Gx2 1/2"	20Gx1 1/2"
										0.018"	0.025"	0.035"			
<b>SINGLE LUMEN</b>															
CV-401-16	4F	18G					✓				✓		5F		✓
CV-401-20	4F	18G						✓			✓		5F		✓
CV-501-16	5F	16G					✓				✓		6F	✓	
CV-501-20	5F	16G						✓			✓		6F	✓	
CV-701-16	7F	14G					✓				✓		7F	✓	
CV-701-20	7F	14G						✓			✓		7F	✓	
<b>DOUBLE LUMEN</b>															
CV-402-06	4F	22/22G	✓								✓		5F		✓
CV-402-10	4F	22/22G		✓							✓		5F		✓
CV-402-16	4F	22/22G					✓				✓		5F		✓
CV-502-10	5F	18/18G		✓							✓		6F		✓
CV-502-16	5F	18/18G					✓				✓		6F		✓
CV-502-20	5F	18/18G						✓			✓		6F		✓
CV-702-16	7F	16/16G					✓				✓		8F	✓	
CV-702-20	7F	16/16G						✓			✓		8F	✓	
CV-702-30	7F	16/16G							✓		✓		8F	✓	
CV-802-16	8.5F	13/13G					✓				✓		10F	✓	
CV-802-20	8.5F	13/13G						✓			✓		10F	✓	
CV-802-30	8.5F	13/13G							✓		✓		10F	✓	
<b>TRIPLE LUMEN</b>															
CV-503-08	5.5F	20/22/22G		✓							✓		6F		✓
CV-503-13	5.5F	20/22/22G			✓						✓		6F		✓
CV-503-30	5.5F	20/22/22G							✓	✓			6F		✓
CV-703-10	7F	16/18/18G		✓							✓		8F	✓	
CV-703-16	7F	16/18/18G					✓				✓		8F	✓	
CV-703-20	7F	16/18/18G						✓			✓		8F	✓	
CV-703-30	7F	16/18/18G							✓		✓		8F	✓	
CV-713-10	7F	14/18/18G		✓							✓		8F	✓	
CV-713-16	7F	14/18/18G					✓				✓		8F	✓	
CV-713-20	7F	14/18/18G						✓			✓		8F	✓	
CV-713-30	7F	14/18/18G							✓		✓		8F	✓	
CV-803-16	8.5F	14/18/18G					✓				✓		10F	✓	
CV-803-20	8.5F	14/18/18G						✓			✓		10F	✓	
CV-803-30	8.5F	14/18/18G							✓		✓		10F	✓	
<b>QUAD LUMEN</b>															
CV-804-16	8.5F	14/16/18/18G					✓				✓		10F	✓	
CV-804-20	8.5F	14/16/18/18G						✓			✓		10F	✓	
CV-804-30	8.5F	14/16/18/18G							✓		✓		10F	✓	

**Optional Features**

Family/Configuration	Description of Configuration	Remark
CV-XXX-XX	CVC with Spring Guidewire and straight needle	NA
CVN-XXX-XX	CVC with Kink-Resistance Guidewire and straight needle	N-Refer to Kink-Resistance Guidewire
CVNR-XXX-XX	CVC with Kink-Resistance Guidewire and Raulerson Syringe	R-Refer to Raulerson Syringe
CV-XXX-XX Y	CVC with Spring Guidewire and Y-Valve Needle	Y-Refer to Y-Valve Needle
CV-XXX-XX T	CVC kit with Procedure Tray	T-Refer to Procedure Tray
CVR-XXX-XX	CVC with Raulerson Syringe	R-Refer to Raulerson Syringe

All complete CVC kit includes Extension Line Clamp, Injection Site, 1 ea. of Luer Slip Syringe, 1 ea. of #11 Short Scalpel, 1 ea. of Suture Wing with Clamp Fastener & 1 ea. of Needle Sponge.

# CENTRAL VENOUS CATHETER

Multi-lumen Catheter



**BIOPTIMAL INTERNATIONAL PTE. LTD.**

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www.bioptimalg.com



**Bioptimal™**

# CENTRAL VENOUS CATHETER

Multi-lumen Catheter

Always convenient.  
Always ready.



## Soft Tip

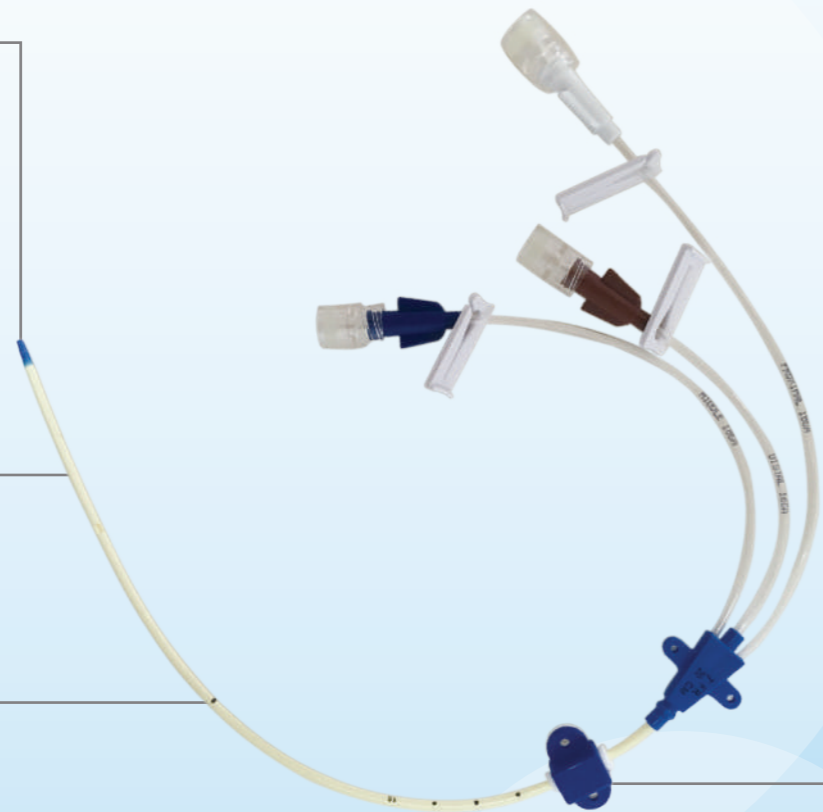
Superior geometric soft tip design makes insertion safe and easy.

## Polyurethane Material

Special formulated biocompatible polyurethane material, provides strength during insertion, yet softens in body.

## Catheter Marking

Radiopaque material with clear, definite marking, ensures correct placement of the catheter.



## Suture Wing & Clamp Fastener

Keep catheter in place thereby reducing the risk of mechanical phlebitis and irritation.

## Quality Components for Optimal Performance



### Tegaderm Transparent Dressing (optional)

Transparent window provides visibility, stabilizes catheter and protects from outside contamination.

### Introducer Needle

Available in Straight or Y needle. Y valve needle designed to prevent back-flow of blood and air embolism.

### Advancer

Single hand operated advancer helps to straighten the "J" Tip spring guidewire and advancing it to the proper position.

### Guidewire

Specially designed guidewire with a soft flexible tip to prevent vessel perforation (vascular trauma), yet provides good torque to ensure firm insertion. Markings on guidewire provide a good insertion indication.

### Needle Sponge

Specialized sponge for holding used needle preventing the potential of needle piercing.

### Contents of the CVC Procedure Tray

- Needle 22G x 1 1/2"
- Needle 25G x 5/8"
- Paper Towel 17" x 22"
- Gauze White
- Fenestrated Drape
- 5cc Syringe with Luer Slip
- Sponge Swabs
- Suture: Braided Silk 3-0 with Straight Needle
- CVC Tray-Medication Cup
- CVC Kit
- Blue Wrap (70 x 70)
- Tegaderm Transparent Dressing (optional)

The CVC Procedure Tray is optional and can be purchased together with the standard central venous catheter kit as a complete set. Please approach our sales representatives for further enquires.

## Bioptimal's Basic CVC Kit

- Polyurethane Catheter
- "J" Tip Guidewire complete with Dispenser & Advancer
- Introducer Needle (Straight Needle or Y Valve Needle)
- Tegaderm Transparent Dressing (optional)
- Suture Wing & Clamp Fastener
- Extension Line Clamp
- Needle Sponge
- Vessel Dilator
- 5cc Syringe with Luer Slip
- Scalpel #11, Short
- Injection Site

Customization is available, please contact your local sales representative for more information.





**Special Female Foley Catheter.**  
The design follows the anatomy and physiology of female urethra.

## Silicone Foley Catheter – Female Type



**Bioptimal™**

[www.bioptimalg.com](http://www.bioptimalg.com)

PCT Patent:

PCT/CN2018/073043

PCT/CN2018/073316

## ★ Characteristics

- 1 Circumferential positioning
- 2 Stably low Insertion
- 3 Complete Isolation
- 4 Uniform Intubation
- 5 Precise Guidance

## ★ Clinical expectation

To reduce the risk of microbe taken into urethra and bladder while inserting a catheter. To reduce injury to urethral mucosa caused by catheterization.

## ★ Preferred departments

Applicable to female patients in all clinical departments.

Model No.	Description	Size (FR/Ch)	Balloon Size (mL)	Length(mm)
FC214W I	2-way	14	5-15	410
FC214W II	2-way	14	20-30	410
FC216W I	2-way	16	5-15	410
FC216W II	2-way	16	20-30	410
FC218W I	2-way	18	5-15	410
FC218W II	2-way	18	20-30	410
FC220W I	2-way	20	5-15	410
FC220W II	2-way	20	20-30	410
FC314W I	3-way	14	5-15	410
FC314W II	3-way	14	20-30	410
FC316W I	3-way	16	5-15	410
FC316W II	3-way	16	20-30	410
FC318W I	3-way	18	5-15	410
FC318W II	3-way	18	20-30	410
FC320W I	3-way	20	5-15	410
FC320W II	3-way	20	20-30	410

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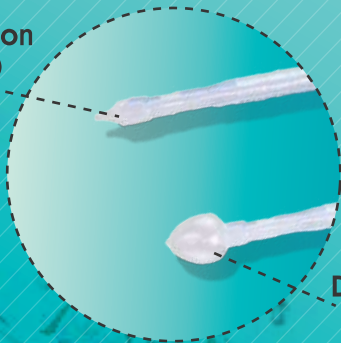




Top Penetration Balloon Dilated Foley Catheter  
Subvert Traditional Operation of Catheterization

# Silicone Foley Catheter – Soft Tip Type

DC Dilation Balloon  
(at rest mode)



DC Dilation Balloon  
(inflated mode)



Foley Balloon  
(filled with water)



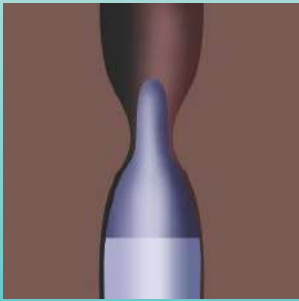
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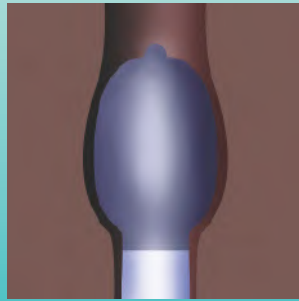
PCT Patent:

PCT/CN2018/073022

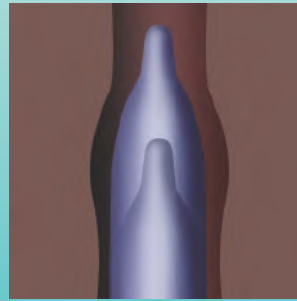
## ★ Diagram and Description of Catheterization Procedure



**STEP 1:** When meet urethral stricture, the balloon at the tip of Foley Catheter can pass first



**STEP 2:** Press on the balloon manually, the top balloon part will expand and go smoothly through the urethral stricture.



**STEP 3:** After the urethral stricture is expanded, release the pressure on the power balloon to change the tip of the balloon back to its original state, then can continue the uniform intubation smoothly.



**STEP 4:** When go through the urethral stricture, Dilation Foley Catheter can reduce mucosa damage and occurrence of urinary tract infection complication.

## ★ Feature

1

When the intubation is blocked, the top segment will go into the urethra's narrow part first, and then the top balloon will be filled with gas thus expanding the urethra radially, which enables the catheter to pass smoothly. This significantly reduces urethral mucosal damage and patient's pain during intubation.

2

Especially applicable to the indwelling catheterization patients who have urethral stricture problem caused by physiological (such as urethral curvature), pathological (such as hypertrophy of prostate) or psychological (such as tension) factors.

Model No.	Description	Size (FR/Ch)	Balloon Size (mL)	Length (mm)
FC314S I	3-way-2-funnel	14	5-15	470
FC314S II	3-way-2-funnel	14	20-30	470
FC316S I	3-way-2-funnel	16	5-15	470
FC316S II	3-way-2-funnel	16	20-30	470
FC318S I	3-way-2-funnel	18	5-15	470
FC318S II	3-way-2-funnel	18	20-30	470
FC320S I	3-way-2-funnel	20	5-15	470
FC320S II	3-way-2-funnel	20	20-30	470

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**Bioptimal™**



**Easy application** for wide patient range.

# EMBOLECTOMY CATHETER



**Bioptimal™**



# EMBOLECTOMY CATHETER

Easy application  
for wide patient range.



- Bioptimal Embolectomy Catheter offer simple, rapid removal of emboli from the arterial system.
- Proprietary “low-profile” winding technique for balloon attachment insures balloon symmetry, providing uniform contact with vessel walls.
- Soft, rounded tip promotes easy arterial insertion for reduced trauma, arteriopuncture and plaque avulsion.
- Flexible polyvinylchloride body with “workhorse” latex balloon.
- Winged hub for easy catheter manipulation during insertion and attachment of balloon inflation syringe.
- Available in 4 lengths and 6 diameters, ranging from 2 French to 7 French.
- Size and balloon inflation capacity printed on proximal end for convenient and rapid identification.

## Specifications

Product Code	Catheter Size	Length (cm)	Colour Code	Maximum Liquid Volume (cc)	Maximum CO <sub>2</sub> Volume (cc)	Inflated Balloon Diameter (mm)	Maximum Pull Force Inflated Balloon (lb)
EL 3260	2F	60	Purple	0.08	0.2	4	0.5
EL 3280	2F	80	Purple	0.08	0.2	4	0.5
EL 3340	3F	40	Green	0.20	0.6	6	0.7
EL 3380	3F	80	Green	0.20	0.6	6	0.7
EL 1440	4F	40	Red	0.75	1.7	9	1.5
EL 1480	4F	80	Red	0.75	1.7	9	1.5
EL 14100	4F	100	Red	0.75	1.7	9	1.5
EL 1540	5F	40	White	1.50	3.0	11	2.0
EL 1580	5F	80	White	1.50	3.0	11	2.0
EL 1640	6F	40	Blue	2.00	4.5	13	2.5
EL 1680	6F	80	Blue	2.00	4.5	13	2.5
EL 1740	7F	40	Yellow	2.50	5.0	14	3.5
EL 1780	7F	80	Yellow	2.50	5.0	14	3.5

\*\*\*Please contact your Bioptimal representative for assistance.

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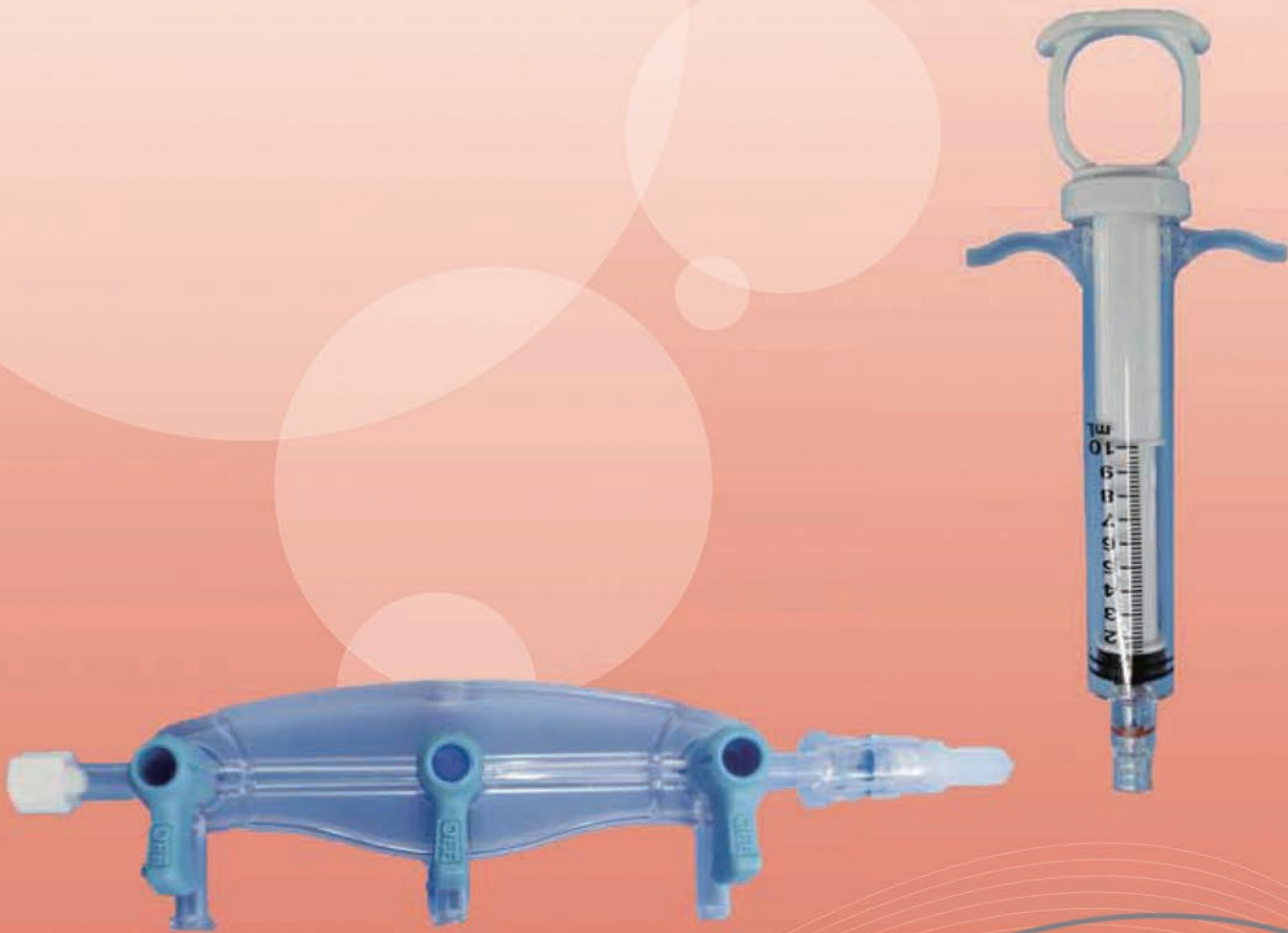
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# Angiographic Kits



**Bioptimal™**

# Angiographic Kits

## Product Description

Bioptimal Angiographic Kits consists of one 3-gang manifold, one IV administration set, one contrast media administration set, one pressure tubing and one control syringe.

The male rotating connector at the distal end of the manifold will be connected to PTCA catheters or angiographic catheters that will be inserted into the patient using Seldinger techniques.

## Intended Use

Bioptimal Angiographic Kits are designed for use in the cath lab during PTCA procedures or Angiography to monitor patient's arterial pressure, administer intravenous solution and contrast media to the patient.

## Angiographic Kit Components

- Multi-Gang Manifold
- IV Administration Set
- Contrast Media Administration Set
- Control Syringes
- High Pressure tubing
- Pressure Tubing
- IV Tubing

Angiographic Kits		
TA2000	Prime Angiographic Kit II	2-GMF, RH(OFF)-500PSI
TA2001	3-GMF, RH(OFF)-200PSI	DPT-AMG#3039
TA3000	3-GMF, RH(OFF)-550PSI	CGH 3-Gang Manifold Kit
TA3001	3-GMF, RH(ON)-550PSI	CGH 3-Gang Manifold Kit W/4 Syringes
CMC-332	2-GMF, RH(ON)-500PSI	Angiographic Kit
BMB Angio Kit	3-GMF, RH(OFF)-500PSI	
Prime Angiographic Kit	3-GMF, RH(ON)-500PSI	



# INTRODUCER KIT



**Bioptimal™**

# INTRODUCER KIT

## Description of the product

Introducer Kit is a basic customized procedure pack that comprises of an introducer with or without a vessel dilator, a guidewire, together with some other components mainly to assist in the catheterization procedures.

## Principle of operation

INTRODUCER KIT is intended to assist in the introduction of temporary pacing leads, balloon catheters, closed end catheter or angiographic catheters into the vasculature.

## Introducer Kit Model

6F 7F 8F 8.5F

Table 1: Introducer Kit Catalogue Number (Model Number)

CPIK 6F
CPIK 7F
CPIK 8F
CPIK 8.5F

# 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.

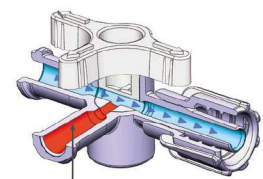


## PRODUCT BENEFITS

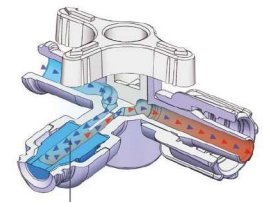
- Closed sampling system reduces the risk of nosocomial infection or line sepsis.
- Needleless sampling system reduces the risk of blood spillage during sampling.
- One-handed operation of reservoir syringe makes the system easy to use.
- Two sampling sites in one kit (for use in critical care facilities - 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