



# BD Hazardous Drug Safety product catalog

Our portfolio to help protect  
your greatest assets



They're your team—working each day to deliver the highest-quality care. And when they prepare or administer hazardous drugs (HDs), they need and deserve to be protected.

The BD Hazardous Drug Safety (HDS) portfolio is designed to help you reduce the risk of HD exposure and surface contamination. It includes the BD PhaSeal™ Optima System—the next-generation closed-system drug transfer device (CSTD) solution; the BD PhaSeal™ System—the most widely published CSTD in the world; the Texium™ System CSTD and the BD® HD Check System—the first HD detection system that provides results in less than 10 minutes.\*

Our clinical team can tailor a solution for your facility that balances your needs for personnel safety, workflow efficiency and cost. So your greatest assets can focus on the job at hand—improving outcomes and saving lives.

\* Tests for select hazardous drugs. Surfaces with contamination at or above the limits of detection have 95% specificity and sensitivity.



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# The BD PhaSeal™ Optima System

**It's the next generation of hazardous drug protection.** We asked longstanding CSTD users and traditional technique users how we could make the pioneering BD PhaSeal™ System even better. The feedback and validation we received guided us to optimize every device within the system.

The result is the BD PhaSeal™ Optima System—with design innovations that advance safety, performance, ergonomics and ease of use—to address your clinical and economic concerns.





# BD PhaSeal™ Optima Drug Vial Access Devices

The BD PhaSeal™ Optima Protector is a pressure-equalization device that is permanently attached to the vial. It is used in the preparation of drugs from either powder or liquid form. The protector establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the vial.



## BD PhaSeal™ Optima Protectors

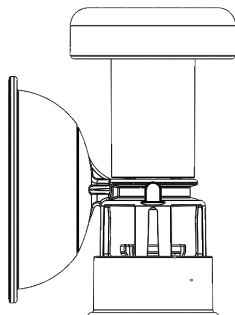
### REF 515060

BD PhaSeal™ Optima Protector  
P13-O

Packaging	Quantity
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Shelf pack	50 ea
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Case	200 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 13 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P13-O has an **equalizing capacity of 10 mL of air**. Blue cap. Does not contain natural rubber latex. BPA free.

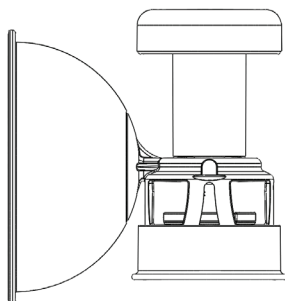
### REF 515064

BD PhaSeal™ Optima Protector  
P20-O

Packaging	Quantity
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Shelf pack	25 ea
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Case	100 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 20 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P20-O has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

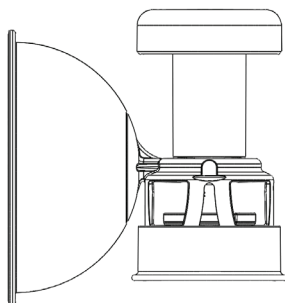
### REF 515065

BD PhaSeal™ Optima Protector  
P20-O Multi-pack

Packaging	Quantity
-----------	----------

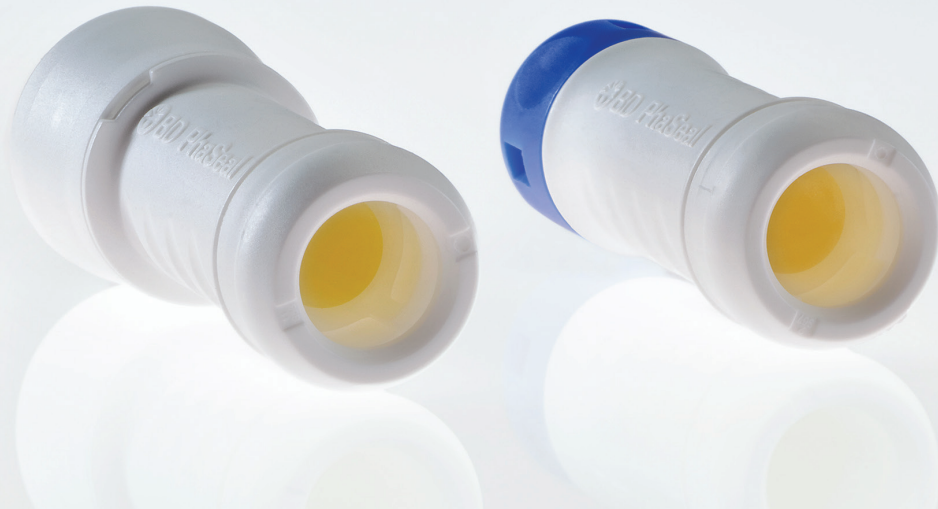
Shelf pack	N/A
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Case	150
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 20 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P20-O has an **equalizing capacity of 50 mL of air**. Green cap. Multi-pack includes 30 individual packages of 5 BD PhaSeal™ Optima Protector P20-O units. Does not contain natural rubber latex. BPA free.





# BD PhaSeal™ Optima Syringe Safety Devices

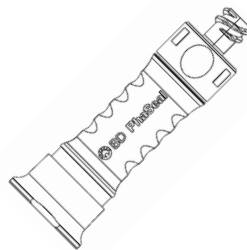
The BD PhaSeal™ Optima System is leakproof for both short- and long-term connections, with membranes that self-seal upon disconnect.

## BD PhaSeal™ Optima Injectors

### REF 515052

BD PhaSeal™ Optima Injector N35-O

Packaging	Quantity
Shelf pack	50 ea
Case	200 ea

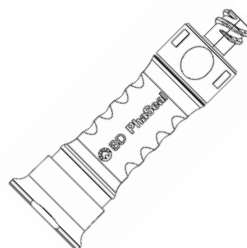


Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

### REF 515053

BD PhaSeal™ Optima Injector N35-O Multi-pack

Packaging	Quantity
Shelf pack	N/A
Case	250



Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Multi-pack includes 50 individual packages of 5 BD PhaSeal™ Optima Injector N35-O units. Does not contain natural rubber latex. BPA free.





# BD PhaSeal™ Optima Injectors

**REF 515056**  
BD PhaSeal™ Optima  
Locking Injector N40-O

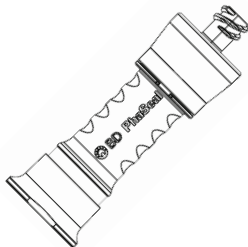
Packaging	Quantity
Shelf pack	50 ea
Case	200 ea



Transfer device that attaches and locks to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

**REF 515057**  
BD PhaSeal™ Optima  
Locking Injector N40-O Multi-pack

Packaging	Quantity
Shelf pack	N/A
Case	250 ea



Transfer device that attaches and locks to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.





# BD PhaSeal™ Optima IV Bag / Line Access Devices

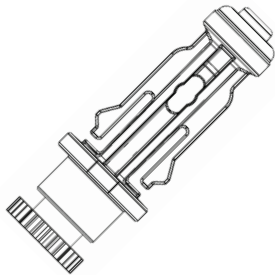
These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.



# BD PhaSeal™ Optima IV Bag / Line Access Devices

**REF 515070**  
BD PhaSeal™ Optima Connector  
C35-O

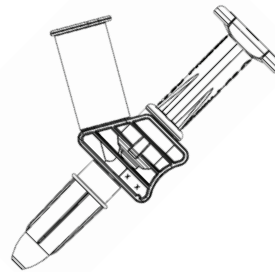
Packaging	Quantity
Shelf pack	50 ea
Case	200 ea



Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. Does not contain natural rubber latex. BPA free.

**REF 515078**  
BD PhaSeal™ Optima Infusion  
Adapter C100-O

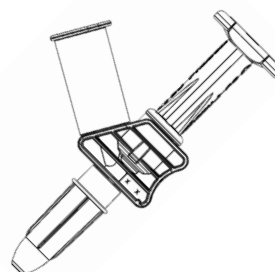
Packaging	Quantity
Shelf pack	40 ea
Case	160 ea



Connection between IV bag and non-vented set. Built-in BD PhaSeal™ Optima Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

**REF 515079**  
BD PhaSeal™ Optima Infusion  
Adapter C100-O Multi-pack

Packaging	Quantity
Shelf pack	N/A
Case	250 ea



Connection between IV bag and non-vented set. Built-in BD PhaSeal™ Optima Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.





# BD PhaSeal™ Optima System Accessories

These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.

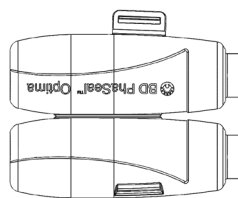


## The BD PhaSeal™ Optima System Accessories\*

### REF 515085

BD PhaSeal™ Optima Infusion Clamp M25-O\*

Packaging	Quantity
Shelf pack	25 ea
Case	100 ea

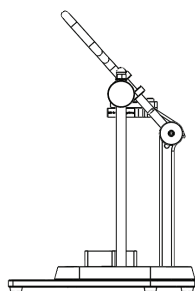


Clamp for securing the connection of injector luer lock to the connector. Non-sterile. Does not contain natural rubber latex. BPA free.

### REF 515082

BD PhaSeal™ Optima Assembly Fixture M12-O\*

Packaging	Quantity
Shelf pack	1 ea
Case	1 ea



Assembly fixture used for consistent and simple attachment of a protector to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

\*BD PhaSeal™ Optima System Accessories are optional.





# The BD PhaSeal™ System

**The BD PhaSeal™ System pioneered the category of closed-system drug transfer devices (CSTDs).** It is the most widely published CSTD in the world, supported by more than 25 peer-reviewed, published studies.

For over 20 years, facilities have used the BD PhaSeal™ System to protect their personnel from hazardous drug exposure and to reduce drug waste. Designed with double membranes and vapor capture mechanisms, it is an airtight and leakproof CSTD that minimizes individual and environmental exposure to vapor aerosols and spills during the preparation, administration and disposal of HDs.



# BD PhaSeal™ Drug Vial Access Devices

Each BD PhaSeal™ Protector is a pressure-equalization device that is permanently attached to the vial. It is used in the preparation of drugs from either powder or liquid form. The protector establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the vial.





## BD PhaSeal™ Protectors

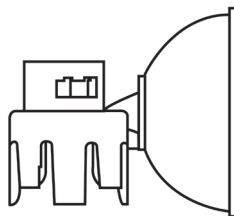
### REF 515100

BD PhaSeal™ Protector P14

Packaging	Quantity
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Shelf pack	50 ea
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Case	200 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø13 mm**. When attached to a vial, the BD PhaSeal™ Protector P14 has an **equalizing capacity of 20 mL of air**. Blue cap. Does not contain natural rubber latex. BPA free.

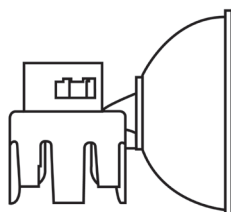
### REF 515102

BD PhaSeal™ Protector P21

Packaging	Quantity
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Shelf pack	50 ea
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Case	200 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P21 has an **equalizing capacity of 20 mL of air**. Red cap. Does not contain natural rubber latex. BPA free.

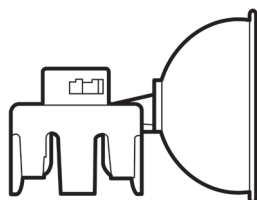
### REF 515103

BD PhaSeal™ Protector P21  
Multi-pack

Packaging	Quantity
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Shelf pack	5 ea
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Case	250 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P21 has an **equalizing capacity of 20 mL of air**. Red cap. Does not contain natural rubber latex. BPA free.

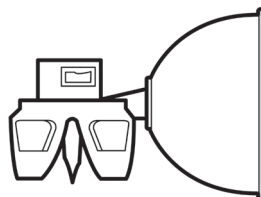
### REF 515104

BD PhaSeal™ Protector P28

Packaging	Quantity
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Shelf pack	25 ea
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Case	100 ea
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Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø28 mm**. When attached to a vial, the BD PhaSeal™ Protector P28 has an **equalizing capacity of 60 mL of air**. White cap. Does not contain natural rubber latex. BPA free.

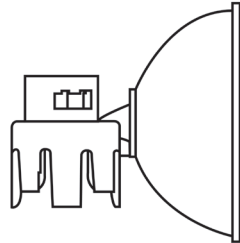


## BD PhaSeal™ Protectors

### REF 515105

BD PhaSeal™ Protector P50

Packaging	Quantity
Shelf pack	25 ea
Case	100 ea

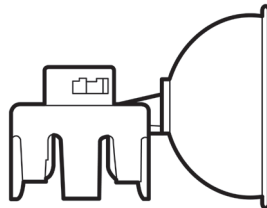


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P50 has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

### REF 515106

BD PhaSeal™ Protector P50  
Multi-pack

Packaging	Quantity
Shelf pack	5 ea
Case	150 ea

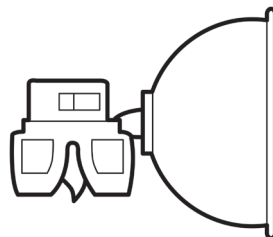


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P50 has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

### REF 515117

BD PhaSeal™ Protector P55

Packaging	Quantity
Shelf pack	25 ea
Case	100 ea



Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P55 has an **equalizing capacity of 50 mL of air**. Mint green cap. This protector contains a plastic spike to help reduce coring and fragmentation. Does not contain natural rubber latex. BPA free.





# BD PhaSeal™ Syringe Safety Devices

The BD PhaSeal™ System ensures leakproof drug transfer thanks to sealed, elastomeric, double membranes.

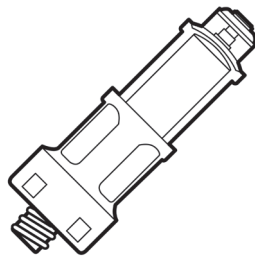
## BD PhaSeal™ Injectors

### REF 515003

BD PhaSeal™ Injector Luer Lock N35

Packaging	Quantity
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Shelf pack	50 ea
Case	200 ea



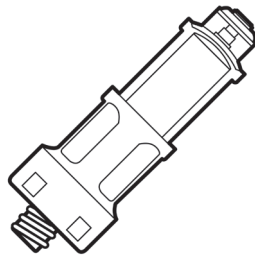
Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

### REF 515005

BD PhaSeal™ Injector Luer Lock N35C Multi-pack

Packaging	Quantity
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Shelf pack	5 ea
Case	250 ea



Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.



# BD PhaSeal™ IV Bag / Line Access Devices

These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.

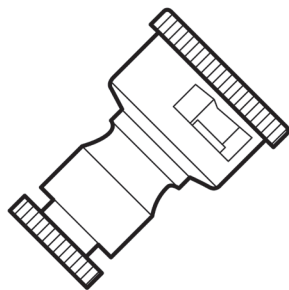


## BD PhaSeal™ IV Bag / Line Access Devices

### REF 515200

BD PhaSeal™ Connector  
Luer Lock C35

Packaging	Quantity
Shelf pack	50 ea
Case	200 ea

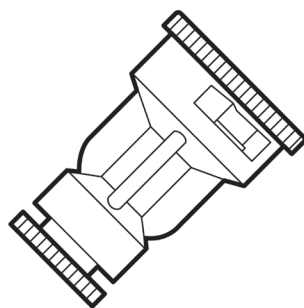


Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. Does not contain natural rubber latex. BPA free.

### REF 515202

BD PhaSeal™ Connector  
Luer Lock C45

Packaging	Quantity
Shelf pack	50 ea
Case	200 ea

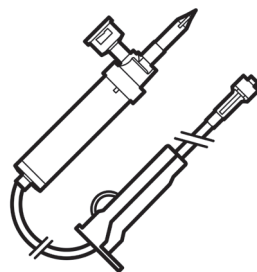


Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. This connector is designed for use with needle-free ports with internal pistons. Does not contain natural rubber latex. BPA free.

### REF 515301

BD PhaSeal™ Secondary  
Set Drip Chamber C60

Packaging	Quantity
Shelf pack	20 ea
Case	80 ea



Secondary set with built-in BD PhaSeal™ Connector for closed transfer to IV bag.

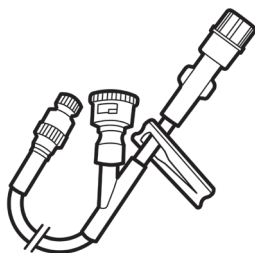
**L: 102 cm PV: 12.5 mL Drops / mL: 20**

Does not contain natural rubber latex. BPA free.

### REF 515304

BD PhaSeal™ Y-site Connector  
C80

Packaging	Quantity
Shelf pack	30 ea
Case	120 ea



Extension tubing with built-in BD PhaSeal™ Connector.

**P: 21 cm PV: 1.6 mL**

Does not contain natural rubber latex. BPA free.



## BD PhaSeal™ IV Bag / Line Access Devices

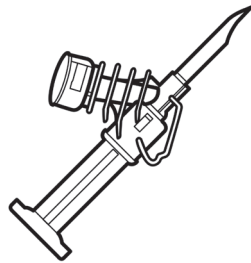
### REF 515306

BD PhaSeal™ Infusion Adapter C100

Packaging	Quantity
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Shelf pack	50 ea
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Case	100 ea
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Connection between IV bag and non-vented infusion set. Built-in BD PhaSeal™ Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

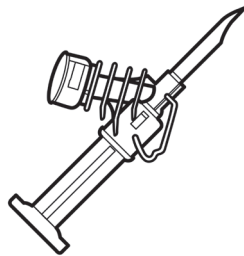
### REF 515307

BD PhaSeal™ Infusion Adapter C100 Multi-pack

Packaging	Quantity
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Shelf pack	5 ea
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Case	250 ea
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Connection between IV bag and non-vented infusion set. Built-in BD PhaSeal™ Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.



# BD PhaSeal™ System Accessories

These devices help aid in the preparation, transport and administration of hazardous drugs.



## BD PhaSeal™ System Accessories\*

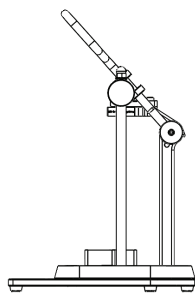
### REF 515400

BD PhaSeal™ Assembly Fixture M12

Packaging	Quantity
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Shelf pack	N/A
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Case	1 ea
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Assembly fixture used for consistent and simple attachment of a protector to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

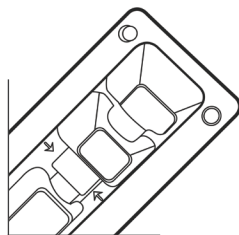
### REF 515401

BD PhaSeal™ Syringe Tray M15

Packaging	Quantity
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Shelf pack	N/A
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Case	80 ea
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The syringe tray is used to transport the filled syringe to the administration area. Designed to accommodate **1–30 mL syringes** with the BD PhaSeal™ Injector Luer Lock N35. Non-sterile. Does not contain natural rubber latex. BPA free.

\*BD PhaSeal™ System Accessories are optional.

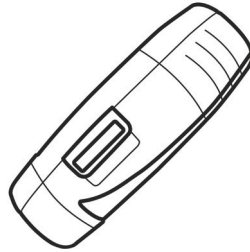


## BD PhaSeal™ System Accessories\*

### REF 515403

BD PhaSeal™ Infusion Clamp M25

Packaging	Quantity
Shelf pack	25 ea
Case	100 ea

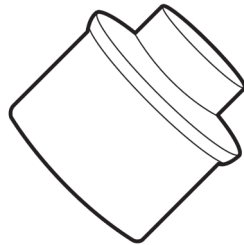


Clamp for securing the connection of the BD PhaSeal™ Injector Luer Lock N35. Non-sterile. Does not contain natural rubber latex. BPA free.

### REF 515404

BD PhaSeal™ Cap for Injector Membrane M50

Packaging	Quantity
Shelf pack	50 ea
Case	200 ea

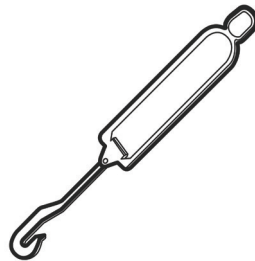


Protects membrane on Injector from direct contact with contaminated surfaces during transport and storage. Does not contain natural rubber latex. BPA free.

### REF 515405

BD PhaSeal™ Hanger for IV Bag M55

Packaging	Quantity
Shelf pack	40 ea
Case	160 ea



Hanger for securing the IV bag on the IV pole. Does not contain natural rubber latex. BPA free.



\*BD PhaSeal™ System Accessories are optional.







# The Texium™ System

**The Texium™ System utilizes mechanical valve technology to help protect healthcare workers and patients from hazardous drugs (HDs).** It features a needle-free luer lock connection on all vial adapters, the option for Texium™ Bonded Syringes and BD SmartSite™ Needle-free Connectors for nursing. For facilities using BD Alaris™ Pumps, the Texium™ System components can be integrated into the administration sets to aid in workflow and prevent accidental disconnections to the infusion line.

When the Texium™ System and the BD SmartSite™ Needle-free Connector are paired together, they provide a leak-free, drip-free connection and disconnection.

The Texium™ System provides pharmacists and nurses with a simple and cost-effective solution.



# Texium™ Drug Vial Access Devices

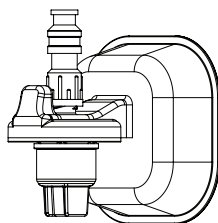
These devices are available in single- or multi-dose configurations, in closed and vented sizes (non-vented, vented and SmartSite™ VialShield) to fit a variety of drug vials and needles. Texium™ Drug Vial Access Devices are used in the preparation of hazardous drugs from powder or liquid form. The Texium™ Drug Vial Access Device works with our Texium™ Closed Male Luer to form a closed system that lets you safely access drug vials. The SmartSite™ VialShield Vial Access Device is a pressure-equalization device that is permanently attached to the vial. This device establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the drug vial.



## SmartSite™ VialShield Vial Access Devices

### REF MV0513

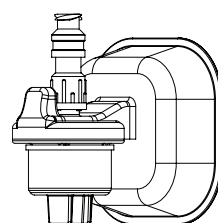
Packaging	Quantity
Shelf pack	N/A
Case	50



**13 mm** closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø13 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

### REF MV0520

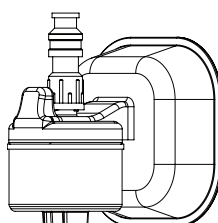
Packaging	Quantity
Shelf pack	N/A
Case	50



**20 mm** closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

### REF MV0528

Packaging	Quantity
Shelf pack	N/A
Case	50



**28 mm** closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø28 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

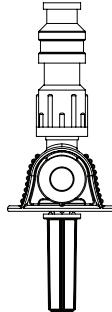




## SmartSite™ Vented Vial Access Devices

### REF MV0400

Packaging	Quantity
Shelf pack	N/A
Case	100

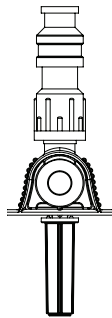


Universal vented vial access device. Compatible with **neck diameter of Ø13 mm, Ø20 mm and Ø28 mm vial closures.** 0.2-micron hydrophobic air-venting filter. Does not contain natural rubber latex. BPA free.

### REF MV040010

Multi-pack

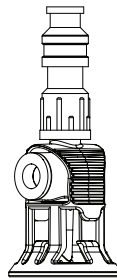
Packaging	Quantity
Shelf pack	10
Case	100



Universal vented vial access device. Compatible with **neck diameter of Ø13 mm, Ø20 mm and Ø28 mm vial closures.** 0.2-micron hydrophobic air-venting filter. Does not contain natural rubber latex. BPA free.

### REF MV0413

Packaging	Quantity
Shelf pack	N/A
Case	100



**13 mm** vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø13 mm.** Does not contain natural rubber latex. BPA free.

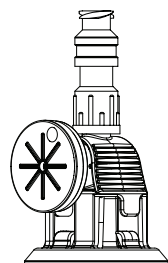




## SmartSite™ Vented Vial Access Devices

### REF MV0420

Packaging	Quantity
Shelf pack	N/A
Case	100

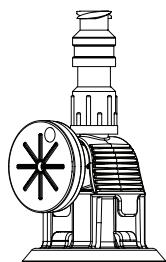


**20 mm** vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.

### REF MV042005

Multi-pack

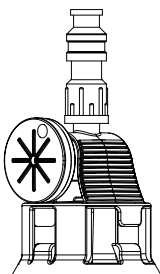
Packaging	Quantity
Shelf pack	5
Case	100



**20 mm** vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.

### REF MV0428

Packaging	Quantity
Shelf pack	N/A
Case	100



**28 mm** vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø28 mm**. Does not contain natural rubber latex. BPA free.

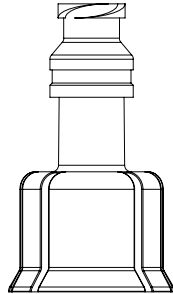




## SmartSite™ Non-vented Vial Access Devices

REF 2203E

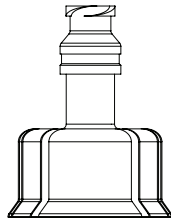
Packaging	Quantity
Shelf pack	N/A
Case	100



**13 mm** non-vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø13 mm**. Does not contain natural rubber latex. BPA free.

REF 2205E

Packaging	Quantity
Shelf pack	N/A
Case	100



**20 mm** non-vented vial access device. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.





# Texium™ Syringe Safety Devices

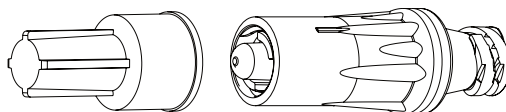
These devices utilize mechanical valve technology and help aid in the transfer of hazardous medication. When the Texium™ System and the BD SmartSite™ Needle-free Connector are paired together, they provide a leak-free, drip-free connection and disconnection. Bonded Texium™ Syringe Safety Devices provide a preassembled two-in-one solution to help optimize safety, simplify workflow and minimize cost.



## Texium™ Syringe Safety Devices

REF 10012241-0500

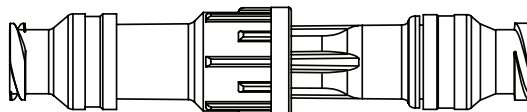
Packaging	Quantity
Shelf pack	N/A
Case	100



Texium™ Closed Male Luer with female cap. Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF MV0450

Packaging	Quantity
Shelf pack	50
Case	100



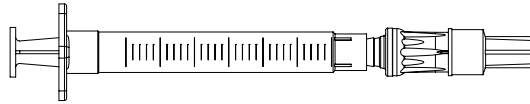
BD SmartSite™ Syringe-to-Syringe Transfer Device. Comprised of two Bonded BD SmartSite™ Needle-free Connectors to aid in the transfer of fluids and medications from one syringe to another syringe. Does not contain natural rubber latex. BPA free.



## Texium™ Syringe Safety Devices

### REF MY8003

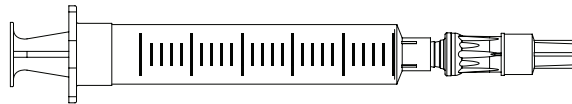
Packaging	Quantity
Shelf pack	N/A
Case	100



**3 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

### REF MY8005

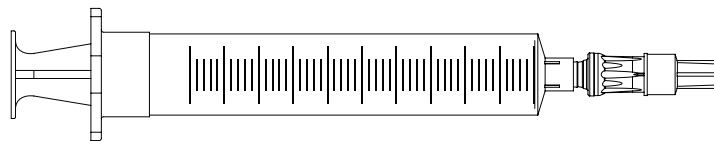
Packaging	Quantity
Shelf pack	N/A
Case	100



**5 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

### REF MY8010

Packaging	Quantity
Shelf pack	N/A
Case	100



**10 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

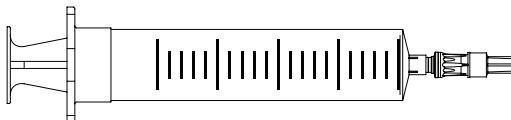




## Texium™ Syringe Safety Devices

### REF MY8020

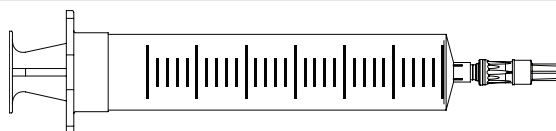
Packaging	Quantity
Shelf pack	N/A
Case	100



**20 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

### REF MY8030

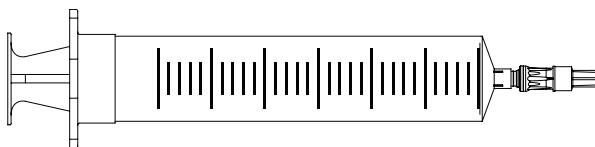
Packaging	Quantity
Shelf pack	N/A
Case	50



**30 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

### REF MY8060

Packaging	Quantity
Shelf pack	N/A
Case	50



**50 mL** needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.



# Texium™ IV Bag / Line Access Devices

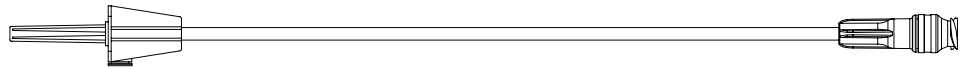
These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.



## Texium™ IV Bag / Line Access Devices

REF 22001E-07

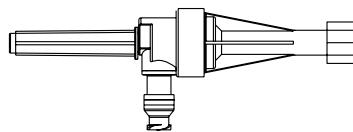
Packaging	Quantity
Shelf pack	N/A
Case	100



Bag access device, microbore with BD SmartSite™ Needle-free Connector. Connection between IV bag and infusion set. Does not contain natural rubber latex. BPA free.

REF 10013365

Packaging	Quantity
Shelf pack	25
Case	100



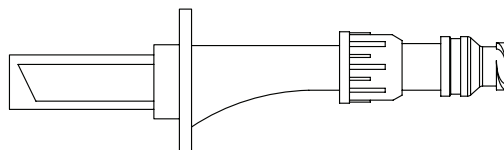
BD SmartSite™ Add-on Bag Access Device, spike adapter. Connection between IV bag and infusion set. Built-in BD SmartSite™ Bag Access Port Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.



## Texium™ IV Bag / Line Access Devices

### REF 2300E-0500

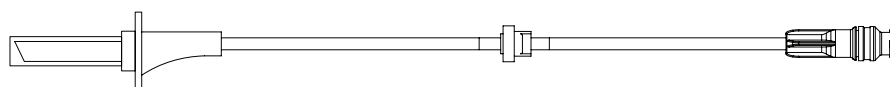
Packaging	Quantity
Shelf pack	N/A
Case	100



BD SmartSite™ Bag Spike. Connection between IV bag and infusion set. Built-in BD SmartSite™ Needle-free Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

### REF 2309E

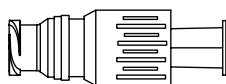
Packaging	Quantity
Shelf pack	N/A
Case	100



BD SmartSite™ Bag Spike with check valve. Connection between IV bag and infusion set. Built-in BD SmartSite™ Needle-free Connector for closed transfer to IV bag while mating with a Texium™ Closed Male Luer. Check valve allows no backflow of fluid into the IV bag. Does not contain natural rubber latex. BPA free.

### REF 2000EA

Packaging	Quantity
Shelf pack	N/A
Case	100



BD SmartSite™ Needle-free Connector. Permits a closed injection and aspiration of fluids without the use of needles. Labeled for use with low-pressure power injectors up to 325 psi and maximum flow rate of 10 mL / second. Does not contain natural rubber latex. BPA free.





# Texium™ System Accessories

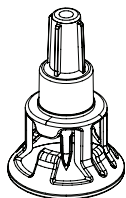
These devices help aid in the preparation, transport and administration of hazardous drugs.



## Texium™ System Accessories

### REF MV0613

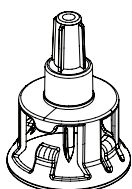
Packaging	Quantity
Shelf pack	N/A
Case	100



**13 mm** Texium™ Vial Access Device with male luer. Device used in the transfer of hazardous drugs with a **13 mm** size neck vial directly into an IV bag. Does not contain natural rubber latex. BPA free.

### REF MV0620

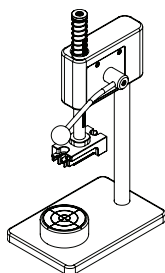
Packaging	Quantity
Shelf pack	N/A
Case	100



**20 mm** Texium™ Vial Access Device with male luer. Device used in the transfer of hazardous drugs with a **20 mm** size neck vial directly into an IV bag. Does not contain natural rubber latex. BPA free.

### REF MV4000

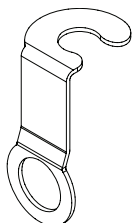
Packaging	Quantity
Shelf pack	N/A
Case	1



Vial press. Mechanical device used for consistent and simple attachment of Texium™ Vial Access Devices to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

### REF MV2000

Packaging	Quantity
Shelf pack	N/A
Case	100



IV bag hinge. Helps to maintain a tight connection between the IV bag spike and IV bag. For use only with B Braun 150 mL PAB bags. Does not contain natural rubber latex. BPA free.



# Texium™ IV Primary Infusion Sets

All these devices are designed to work with the BD Alaris™ Pump Module 8100 and include many types of tubing. Various configurations can integrate the BD SmartSite™ Needle-free Valve Ports above or below the pumping segment.

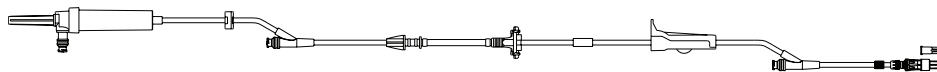




## IV Primary Infusion Sets (Bonded Texium™)

### REF 10013361T

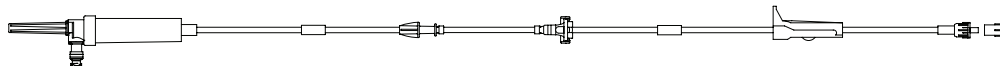
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valve Ports (6 in, 87 in; one above pumping segment and one below) from Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.  
**L: 118 in L: 298 cm PV: 25 mL**

### REF 10321213T

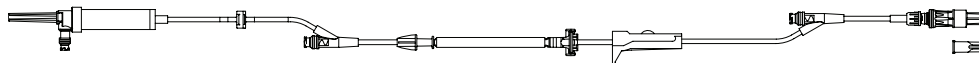
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.  
**L: 107 in L: 272 cm PV: 24 mL**

### REF 24601-B007T

Packaging	Quantity
Shelf pack	N/A
Case	20



BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Two BD SmartSite™ Needle-free Valves (6 in, 99 in; one above pumping segment and one below) from Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.  
**L: 118 in L: 300 cm PV: 24 mL**

### REF 22600-0007T

Packaging	Quantity
Shelf pack	N/A
Case	20



Roller, pinch clamp(s). Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.  
**L: 47 in L: 120 cm PV: 14 mL**



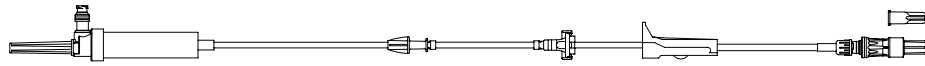
## IV Primary Infusion Sets (Bonded Texium™)

### REF 22602-B007T

Packaging	Quantity
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Shelf pack	N/A
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Case	20
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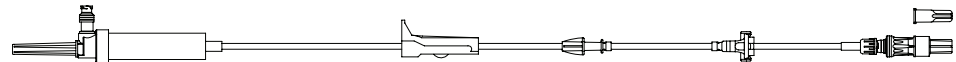
BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).  
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain  
 natural rubber latex. BPA free. **L: 118 in L: 300 cm PV: 24 mL**

### REF 22603-B007T

Packaging	Quantity
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Shelf pack	N/A
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Case	20
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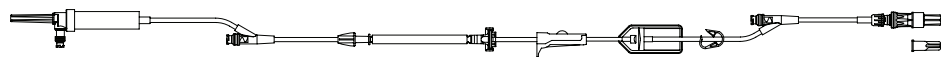
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).  
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural  
 rubber latex. BPA free. **L: 47 in L: 120 cm PV: 14 mL**

### REF 24602-B007T

Packaging	Quantity
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Shelf pack	N/A
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Case	20
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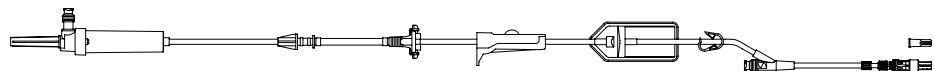
BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, 0.2-micron filter  
 (1.72 sq in low-protein binding), roller, pinch clamp(s). Two BD SmartSite™ Needle-free  
 Valves (6 in, 88 in; one above pumping segment and one below). Texium™ Closed Male  
 Luer. Fluid path sterile. 20 drop. **L: 118 in L: 300 cm PV: 27 mL**

### REF 24301-0007T

Packaging	Quantity
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Shelf pack	N/A
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Case	20
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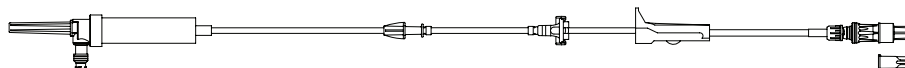
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter  
 (1.72 sq in low-protein binding), roller, pinch clamp(s). One BD SmartSite™  
 Needle-free Valve (6 in, above Bonded Texium™ Closed Male Luer) from Texium™  
 Closed Male Luer. Fluid path sterile. 20 drop. **L: 115 in L: 292 cm PV: 27 mL**



## IV Primary Infusion Sets (Bonded Texium™)

### REF 22601-B007T

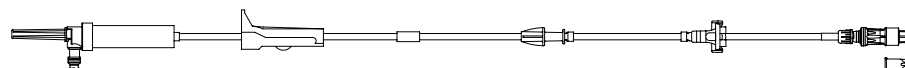
Packaging	Quantity
Shelf pack	N/A
Case	20



BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).  
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain  
 natural rubber latex. BPA free. **L: 77 in L: 196 cm PV: 19 mL**

### REF 22000-B007T

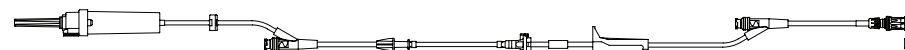
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).  
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural  
 rubber latex. BPA free. **L:45 in L:115 cm PV: 14 mL**

### REF 24009-0007T

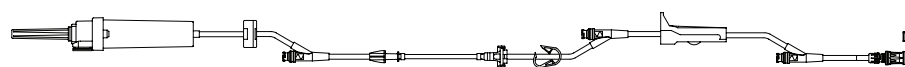
Packaging	Quantity
Shelf pack	N/A
Case	20



Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valves  
 (81 in, 6 in, from Texium™ Closed Male Luer). Fluid path sterile. 20 drop.  
 Does not contain natural rubber latex. BPA free. **L: 117 in L: 298 cm PV: 25 mL**

### REF 24010-0007T

Packaging	Quantity
Shelf pack	N/A
Case	20

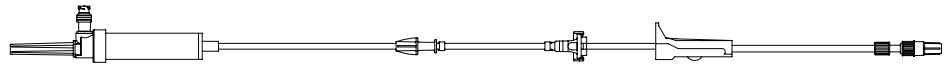


Check valve, roller, pinch clamp(s). Three BD SmartSite™ Needle-free Valves  
 (96 in, 74 in, 6 in, from Texium™ Closed Male Luer). Fluid path sterile. 20 drop.  
 Does not contain natural rubber latex. BPA free. **L: 126 in L: 321 cm PV: 26 mL**

## IV Primary Infusion Sets (Non-bonded Texium™)

**REF 22604-B007**

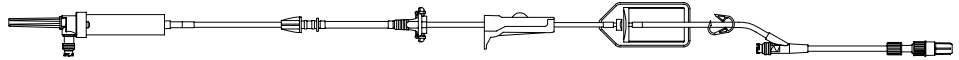
Packaging	Quantity
Shelf pack	N/A
Case	20



BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s), two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 118 in L: 299 cm PV: 24 mL**

**REF 2465-0007**

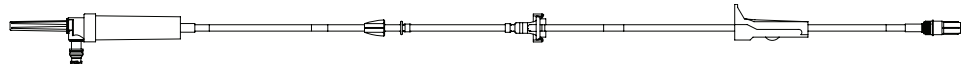
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter (1.72 sq in low-protein binding), roller, pinch clamp(s). One BD SmartSite™ Needle-free Valve (6 in, below pumping segment) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 116 in L: 294 cm PV: 27 mL**

**REF 2466-0007**

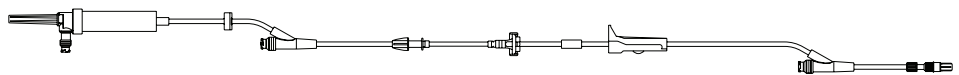
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s), spin male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 87 in L: 220 cm PV: 21 mL**

**REF 10013361**

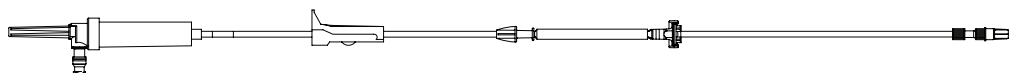
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valves (6 in, 87 in; one above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 118 in L: 299 cm PV: 25 mL**

**REF 10015862**

Packaging	Quantity
Shelf pack	N/A
Case	20

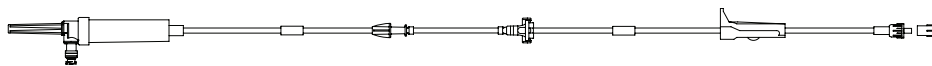


Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 45 in L: 115 cm PV: 14 mL**

## IV Primary Infusion Sets (Non-bonded Texium™)

**REF 10321213**

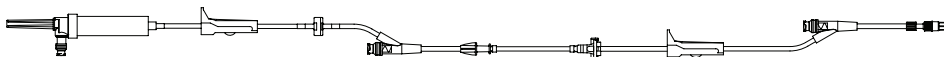
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Fixed male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 106 in L: 270 cm PV: 24 mL**

**REF 10014855A**

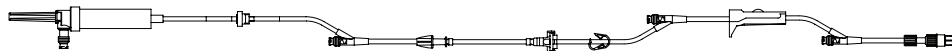
Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Two BD SmartSite™ Needle-free Valves (6 in, 99 in; one above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 116 in L: 294 cm PV: 24 mL**

**REF 10015861A**

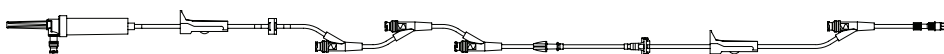
Packaging	Quantity
Shelf pack	N/A
Case	20



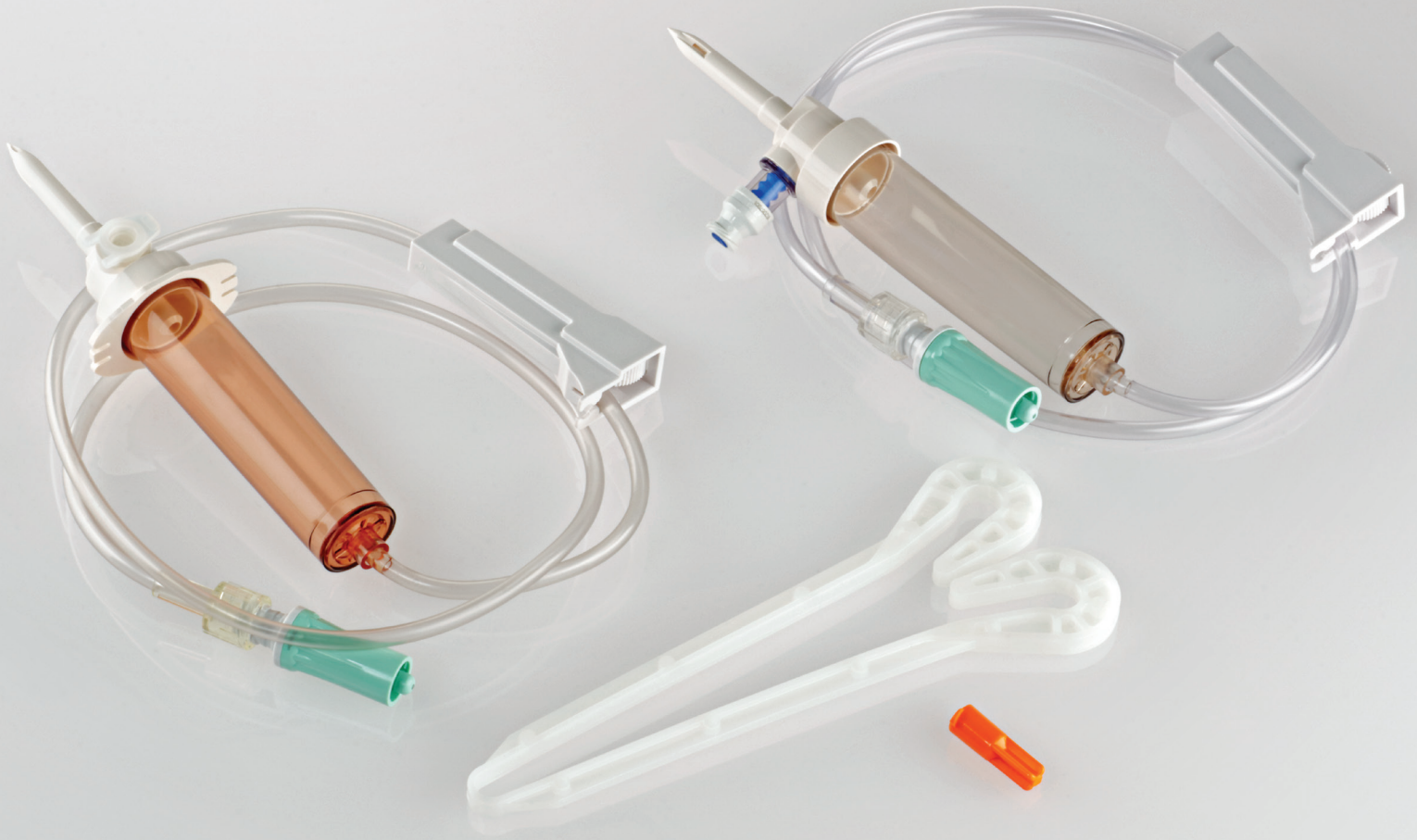
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller, pinch clamp(s). Three BD SmartSite™ Needle-free Valves (6 in, 74 in, 96 in; one above pumping segment and two below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 127 in L: 323 cm PV: 25 mL**

**REF 10061661A**

Packaging	Quantity
Shelf pack	N/A
Case	20



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Four BD SmartSite™ Needle-free Valves (6 in, 90 in, 92 in, 94 in; three above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 127 in L: 308 cm PV: 25 mL**



# Texium™ IV Secondary Infusion Sets

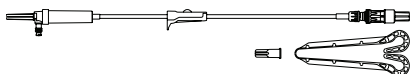
We offer a wide variety of secondary infusion sets designed to work with needle-free valves, including BD SmartSite™ Injection Ports. Specialized tubing is not made with DEHP as part of the formulation and is available with filtration and integrated safety features.



## IV Secondary Infusion Sets (Bonded Texium™)

**REF 10013364T**

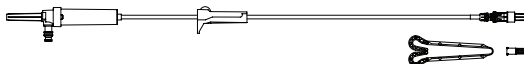
Packaging	Quantity
Shelf pack	N/A
Case	100



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 81 cm PV: 12 mL**

**REF 70001B-07T**

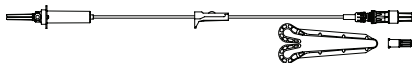
Packaging	Quantity
Shelf pack	N/A
Case	100



Secondary set, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 12 mL**

**REF 72213NT**

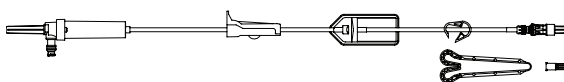
Packaging	Quantity
Shelf pack	N/A
Case	100



Secondary set, roller clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 82 cm PV: 12 mL**

**REF 4030B-07T**

Packaging	Quantity
Shelf pack	N/A
Case	100

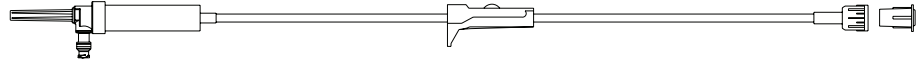


Secondary set, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter (1.72 sq in low-protein binding), roller, pinch clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 81 cm PV: 14 mL**

## IV Secondary Infusion Sets (Non-bonded Texium™)

**REF 10013364**

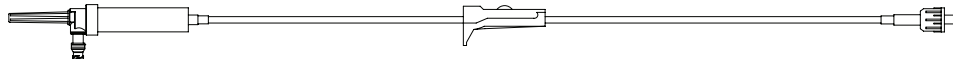
Packaging	Quantity
Shelf pack	N/A
Case	100



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Fixed male luer lock with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 7 mL**

**REF 10014881**

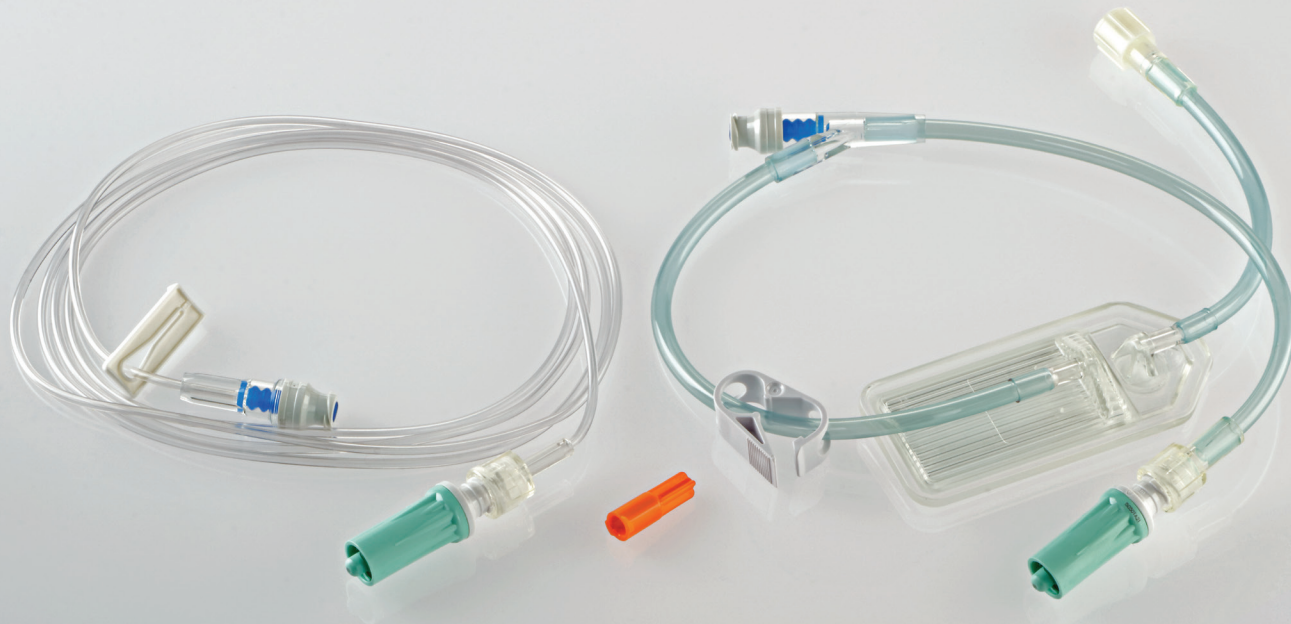
Packaging	Quantity
Shelf pack	N/A
Case	100



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller, pinch clamp(s). Fixed male luer lock with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 8 mL**







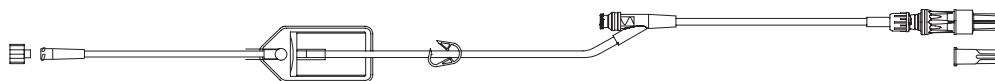
# BD SmartSite™ Extension Infusion Sets

BD SmartSite™ Extension Sets are available with BD SmartSite™ Needle-free Connectors. We offer fluid path extension sets, and extension sets in small bore and standard bore tubing sizes with varying priming volumes depending on the tubing size and length.

## IV Extension Infusion Sets (Bonded Texium™)

### REF 20350ET

Packaging	Quantity
Shelf pack	N/A
Case	100



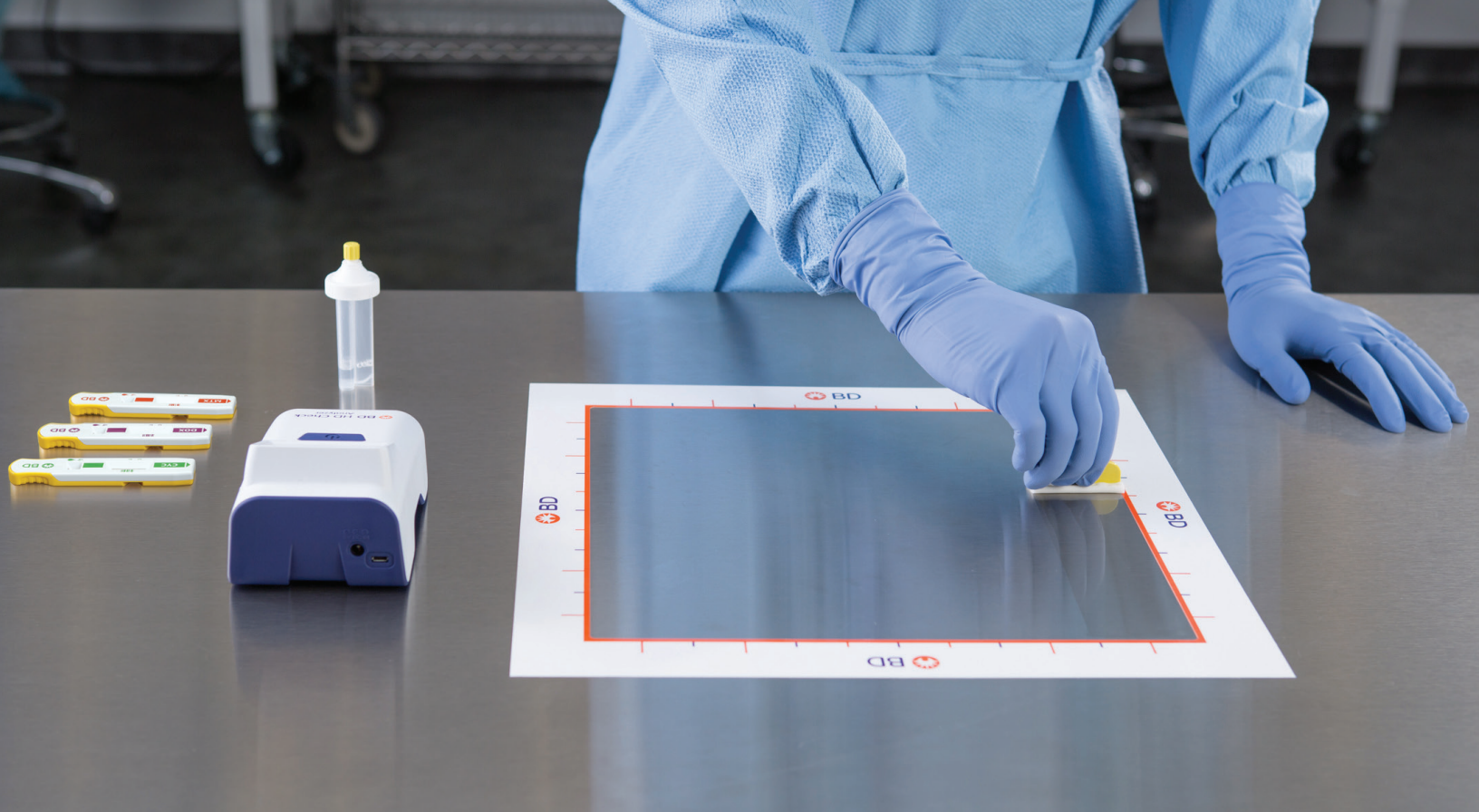
Extension set. 0.2-micron filter (1.72 sq in low-protein binding), slide clamp(s). One BD SmartSite™ Needle-free Valve (6 in from Texium™ Closed Male Luer). Fluid path sterile. Does not contain natural rubber latex. BPA free.  
**L: 20 in L: 51 cm PV: 6 mL**

### REF 22005E-07T

Packaging	Quantity
Shelf pack	N/A
Case	50



Extension set, microbore, one BD SmartSite™ Needle-free Connector, slide clamp. Fluid path sterile. Does not contain natural rubber latex. BPA free.  
**L: 62 in L: 158 cm PV: 1.6 mL**



# The BD<sup>®</sup> HD Check System

The BD<sup>®</sup> HD Check System is the first rapid hazardous drug\* detection system that provides results in less than 10 minutes. It reliably\*\* detects surface contamination on multiple surfaces for a select number of HDs\* using proven lateral flow assay technology. The handheld design of the BD<sup>®</sup> HD Check System makes it easy and convenient to conduct testing at any location. The results are quick, reliable and easy to read, enabling immediate corrective action to be taken.

Users can easily integrate the BD<sup>®</sup> HD Check System into their daily routine or workflow, tracking contamination levels over time. It can also help facilities monitor their compliance with aspects of USP <800> and other safe handling guidelines.

\* The BD<sup>®</sup> HD Check System tests for select hazardous drugs—cyclophosphamide, doxorubicin and methotrexate.

\*\* Surfaces with contamination at or above the limits of detection have 95% specificity and sensitivity.



## BD® HD Check Analyzer and Collection

### REF 515020

BD® HD Check Analyzer

Packaging	Quantity
-----------	----------

Shelf pack	1 ea
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Case	1 ea
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Analyzer that reads results from specific assay cartridges and delivers results of surface contamination. Does not contain natural rubber latex. BPA free.

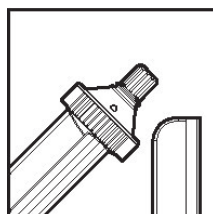
### REF 515033

BD® HD Check Hazardous Drug Collection Kit

Packaging	Quantity
-----------	----------

Shelf pack	20 ea
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Case	20 ea
------	-------



Includes one collection tube/dropper with solution and one wipe used to collect a sample from desired surface. Does not contain natural rubber latex. BPA free.

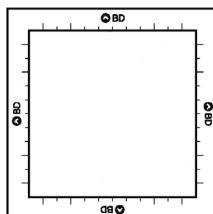
### REF 515024

BD® HD Check Collection Template 12" x 12"

Packaging	Quantity
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Shelf pack	20 ea
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Case	20 ea
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A 12 in x 12 in cut-out used to establish collection area on desired surface. Does not contain natural rubber latex. BPA free.



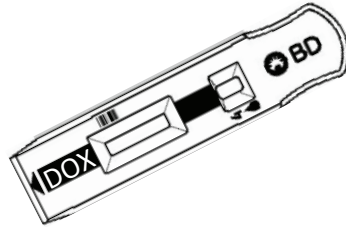


## BD® HD Check Assay Cartridges

### REF 515025

BD® HD Check Doxorubicin Assay Cartridge

Packaging	Quantity
Shelf pack	20 ea
Case	20 ea

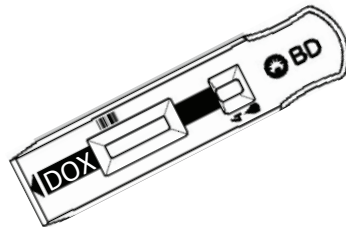


Assay cartridge used to detect surface contamination of **Doxorubicin** from a collection sample. Does not contain natural rubber latex. BPA free.

### REF 515026

BD® HD Check Doxorubicin Assay Cartridge

Packaging	Quantity
Shelf pack	40 ea
Case	40 ea

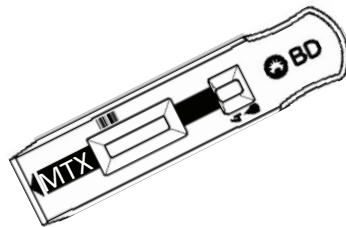


Assay cartridge used to detect surface contamination of **Doxorubicin** from a collection sample. Does not contain natural rubber latex. BPA free.

### REF 515029

BD® HD Check Methotrexate Assay Cartridge

Packaging	Quantity
Shelf pack	20 ea
Case	20 ea

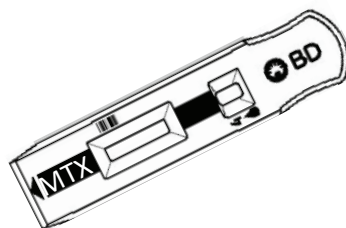


Assay cartridge used to detect surface contamination of **Methotrexate** from a collection sample. Does not contain natural rubber latex. BPA free.

### REF 515030

BD® HD Check Methotrexate Assay Cartridge

Packaging	Quantity
Shelf pack	40 ea
Case	40 ea



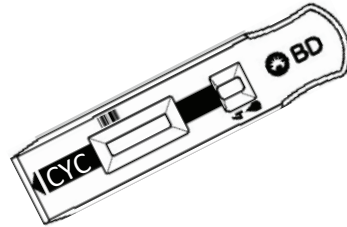
Assay cartridge used to detect surface contamination of **Methotrexate** from a collection sample. Does not contain natural rubber latex. BPA free.



## REF 515031

BD® HD Check  
Cyclophosphamide  
Assay Cartridge

Packaging	Quantity
Shelf pack	20 ea
Case	20 ea

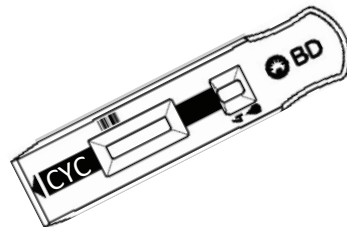


Assay cartridge used to detect surface contamination of **Cyclophosphamide** from a collection sample. Does not contain natural rubber latex. BPA free.

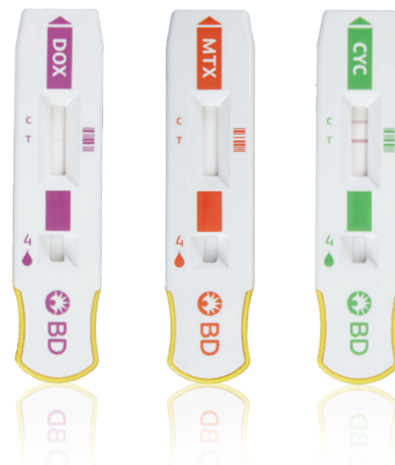
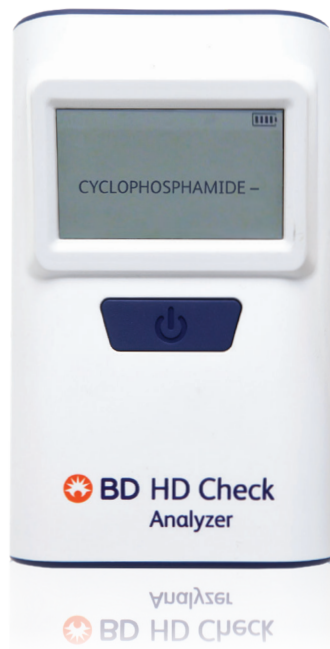
## REF 515032

BD® HD Check  
Cyclophosphamide  
Assay Cartridge

Packaging	Quantity
Shelf pack	40 ea
Case	40 ea



Assay cartridge used to detect surface contamination of **Cyclophosphamide** from a collection sample. Does not contain natural rubber latex. BPA free.





# Material specifications and acronyms

This is a reference guide for specifications and acronyms for materials related to the BD PhaSeal™ Optima System, the BD PhaSeal™ System and the Texium™ System, to help provide health and safety information about our products and their chemical makeup/substances.

# BD PhaSeal™ Optima System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within the BD PhaSeal™ Optima System products as detailed in Tables 2–5.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

**Table 1: Raw materials abbreviations and descriptions**

AC	Acrylate polymer
DEHP	Di-(2-ethylhexyl) phthalate
PA	Polyamide
PI	Polyisoprene
POM	Polyoxymethylene
PP	Polypropylene
PVC	Polyvinyl chloride
TPE	Thermoplastic elastomer

**Table 2: Protector materials**

<b>Protectors</b> REF BD PhaSeal™ Optima Protector P13-O, BD PhaSeal™ Optima Protector P20-O	Not made with DEHP
Protector membrane cap	PP
Membrane	PI
Protector body	PP
Hydrophobic and oleophobic filter	AC
Expansion chamber	PP
Expansion film	PA/PP
Lubricant on spike	Silicone
Sleeve	TPE
Grip cap	Colored PP (color specific to protector size)

BD PhaSeal™ Optima Protectors do not contain DEHP, BPA, rubber latex or PVC





**Table 3: Injector and cannula materials**

<b>Injector luer locks</b>	
<b>REF BD PhaSeal™ Optima Injector N35-O</b>	Not made with DEHP
Hub	Colored PP
Cannula	Stainless steel
Cannula lubricant	Silicone
Grip 1	PP
Spring	Stainless steel
Collet	POM
Membrane	PI
Grip 2	PP
Cap	PP

BD PhaSeal™ Optima Injectors do not contain DEHP, BPA, rubber latex or PVC

**Table 4: Connector materials**

<b>Connector</b>	
<b>REF BD PhaSeal™ Optima Connector C35-O</b>	Not made with DEHP
Membrane	PI
Body	PP
Lid	Colored PP

BD PhaSeal™ Optima Connectors do not contain DEHP, BPA, rubber latex or PVC



**Table 5: Infusion adapter materials**

Infusion adapter REF BD PhaSeal™ Optima Infusion Adapter C100-O	
	Not made with DEHP
Spike cap	PP
Infusion adapter body	PP
Membrane	PI
Infusion adapter membrane cap	PP
Spike port	Colored TPE

BD PhaSeal™ Optima Infusion Adapters do not contain DEHP, BPA, rubber latex or PVC



# BD PhaSeal™ System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within the BD PhaSeal™ System products as detailed in Tables 2–7.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

**Table 1: Raw materials abbreviations and descriptions**

ABS	Acrylonitrile-butadiene-styrene copolymer
DEHP	Di-(2-ethylhexyl) phthalate
PA	Polyamide
PE	Polyethylene
POM	Polyoxymethylene
PP	Polypropylene
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl chloride
SEBS	Styrene ethylene butylene styrene
TPE	Thermoplastic elastomer

**Table 2: Protector materials and cannula size**

<b>Protectors</b>	
REF BD PhaSeal™ Protector P14, BD PhaSeal™ Protector P21, BD PhaSeal™ Protector P28, BD PhaSeal™ Protector P50, BD PhaSeal™ Protector P55	Not made with DEHP
Expansion film	PA / PP
Hydrophobic filter	PTFE
Filter cover	PP
Membrane	TPE
Housing	PP
Cannulae: BD PhaSeal™ Protector P14, BD PhaSeal™ Protector P21, BD PhaSeal Protector P50	Stainless steel
Cannula size:	
BD PhaSeal™ Protector P14 –1.0 mm OD x 0.7 mm ID	
BD PhaSeal™ Protector P21, BD PhaSeal™ Protector P50–1.65 mm OD x 1.35 mm ID	
BD PhaSeal™ Protector P28, BD PhaSeal™ Protector P55– no cannula (PP spike)	
Protective lid	PP

**Table 3: Injector materials and cannula size**

<b>Injector luer locks</b> REF BD PhaSeal™ Injector Luer Lock N35, BD PhaSeal™ Injector Luer Lock N35C	Not made with DEHP
<b>Cannula 18G (1.2 mm OD x 0.9 mm ID)</b>	<b>Stainless steel</b>
Cylinder	ABS
Membrane	TPE
Piston	PP
<b>Cannula housing</b>	<b>PP</b>
Safety sleeve	POM
<b>Piston sealing</b>	<b>Silicone</b>
Cap (BD PhaSeal™ Injector Luer Lock N35, BD PhaSeal™ Injector Luer Lock N35C)	PP

**Table 4: Connector materials**

<b>Connector luer locks</b> REF BD PhaSeal™ Connector Luer Lock C35, BD PhaSeal™ Connector Luer Lock C45	Not made with DEHP
<b>Housing</b>	<b>PP</b>
Membrane	TPE
Protective cap	PE

**Table 5: Infusion adapter materials**

<b>Infusion adapter</b> REF BD PhaSeal™ Infusion Adapter C100	Not made with DEHP
Protective cap	PP / PE
<b>Spike housing</b>	<b>PP</b>
Membrane	TPE
<b>Spike port</b>	<b>TPE</b>



**Table 6: Y-site connector materials**

<b>Y-site connector</b>	
<b>REF BD PhaSeal™ Y-site Connector C80</b>	Not made with DEHP
Connector housing	ABS
Membrane	TPE
Tubing	PVC (not made with DEHP)
Clamp	PP
Y-tubing section	ABS
Male luer end	Acrylic
Cap male luer end	PE
Female luer end	ABS
Cap female luer end	ABS

**Table 7: Secondary IV set materials**

<b>Secondary IV sets</b>	
<b>REF BD PhaSeal™ Secondary Set Drip Chamber C60</b>	Not made with DEHP
All IV protective cap (spikes)	PE
Sets:	
Spike	ABS
Connector	ABS
Membrane	TPE
Tubing	PVC (not made with DEHP)
Drip chamber	PVC (not made with DEHP)
Clamp (not fluid path)	ABS
Male luer end	ABS
Cap male luer end	PE



# Texium™ System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within Texium™ System products as detailed in tables 2–11.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

**Table 1: Raw materials abbreviations and descriptions**

ABS	Acrylonitrile-butadiene-styrene copolymer
DEHP	Di-(2-ethylhexyl) phthalate
HDPE	High-density polyethylene
MABS	Methyl methacrylate-acrylonitrile-butadiene-styrene
PC	Polycarbonate
PE	Polyethylene
PP	Polypropylene
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl chloride
TPE	Thermoplastic elastomer

**Table 2: Universal vented vial adapter materials**

<b>Universal vented vial adapter</b>	
<b>REF MV0400</b>	Not made with DEHP Approximate flow rate: > 3,000 mL per hour Residual fluid: < 1.2 mL Priming volume: < 0.15 mL
<b>Vial access device body</b>	<b>MABS</b>
<b>Air filter</b>	
Housing	HDPE
Filter	Acrylic copolymer / nylon
<b>BD SmartSite™ Needle-free Valve</b>	
Body	Acrylic
Female luer	Polyurethane
Piston	Silicone

Table 3: SmartSite™ Vented Vial Adapter materials	
REF MV0413, MV0420, MV0428	Not made with DEHP Total length = 2.3 in, PV = 0.08 mL (MV0413) Total length = 2.3 in, PV = 0.1 mL (MV0420, MV0428)
Vial access device body	MABS
Air filter	
Housing	MABS (MV0420 / MV0428) HDPE (MV0413)
Filter	Acrylic copolymer / nylon
BD SmartSite™ Needle-free Valve	
Body	Acrylic
Female luer	Polyurethane
Piston	Silicone

Table 4: BD SmartSite™ VialShield Closed Vial Adapter materials	
REF MV0513, MV0520, MV0528	Not made with DEHP
Shroud housing	PVC
Upper housing	PVC
Check valve	Silicone
Air filter (not shown—in upper housing)	PTFE / nylon
Chamber membrane	Polyurethane
BD SmartSite™ Needle-free Valve	
Body	Acrylic
Female luer	Polyurethane
Piston	Silicone





Table 5: BD SmartSite™ IV Bag Access Device materials	
REF 2300E	Not made with DEHP Total length = 3.5 in PV = 0.51 mL
Cap	PE
Body	Acrylic
BD SmartSite™ Needle-free Valve	
Body	Acrylic
Female luer	Polyurethane
Piston	Silicone
Solvent	Cyclohexanone

Table 6: BD SmartSite™ Add-on Bag Access Device materials	
REF 10013365	Not made with DEHP Total length = 4.0 in PV = 0.60 mL
Spike	PE
Port cap	ABS
Spike / body	ABS
Spike port	PVC
BD SmartSite™ Needle-free Valve	
Body	PC
Female luer	Polyurethane
Piston	Silicone
Solvent	Cyclohexanone



Table 7: BD SmartSite™ Needle-free Valve materials	
REF 2000E, 2000EA	Not made with DEHP PV = 0.11 mL labeled for use with low-pressure power injectors up to 325 psi and maximum flow rate of 10 mL / second
Body	Acrylic
Female luer	Polyurethane
Piston	Silicone
Cap	PE





# Key terms, abbreviations and symbols

This is a reference guide for key medical terms, abbreviations and symbols that are used to describe materials found within the products for the BD PhaSeal™ Optima System, the BD PhaSeal™ System, the Texium™ System and the BD® HD Check System.

# Key terms, abbreviations and symbols

## **0.2-micron filter**

Removes particulate matter larger than 0.2 microns and virtually all fungi and bacteria. Often used as a final filter for air elimination.

*Note:* Filters are self-priming. DO NOT INVERT FILTER.

Filters contain Supor<sup>®</sup> (polyethersulfone) membranes, which have low-protein and drug-binding characteristics.

## **Two-piece male luer lock**

Male luer lock with retractable rotating collar.

## **20 drop**

Spike is designed so that 20 drops equal approximately 1 mL.

## **Bag access**

BD SmartSite™ Port integrated into the drip chamber spike, which allows direct fluid path access into a spiked container.

## **Check valve**

A device that allows flow in only one direction. Commonly used for secondary piggyback drug administration or to protect certain elements of the set from high pressures that can occur when a syringe injects into the set.

## **Content sterile**

The entire content of the package is sterile, and is tested / validated and labeled for placing directly on a sterile field.

## **DEHP Di-(2-ethylhexyl) phthalate**

A plasticizer used in PVC tubing to make it soft and pliable.

*Note:* All sets contain DEHP unless otherwise noted.

## **Fixed male luer lock**

Male luer and collar are one piece. Collar does not spin or move freely.

## **Fluid path sterile**

Although the entire administration set is sterilized, only the capped, fluid path portion of the administration set was tested to meet sterility requirements.

## **Microbore / ultra-minibore**

Tubing with smaller internal diameter of  $\leq 0.04$  in, to minimize the contained volume.

## **Needle-free / needleless**

Needle-free connectors or valves, also known as needleless connectors or valves. Offer a safe way to access IV lines without the use of a needle, which greatly reduces the risk of accidental needlestick injuries.

## **Non-vented**

Characteristic of the spike that enters the solution container. Designed for collapsible plastic containers, as no air is required to enter the container for fluid to flow.

## **Not made with DEHP**

Set / component is not made with DEHP.

## **Not made with natural rubber**

Latex is known to cause hypersensitivity reactions and allergies in significant percentages of patients and healthcare workers.\*

## **Spin male luer lock**

Male luer lock with rotating collar.

## **Standard bore**

Tubing with larger diameter of  $\geq 0.1$  in.

*Note:* All sets with tubing are standard bore unless otherwise noted.






## **Vented / non-vented**

Characteristic of the spike that enters the solution container. Designed for containers that do not collapse when emptying (glass or semi-rigid plastic). Vent allows air to enter the container to allow fluid to flow.

*Note:* All sets with drip chambers are vented / non-vented unless otherwise noted.

\* Nguyen K, Kohli A. Latex Allergy. [Updated 2020 Nov 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 01/2021. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK545164/>

Abbreviations	
<b>ABS</b>	Acrylonitrile-butadiene-styrene copolymer
<b>BPA</b>	Bisphenol A
<b>CYC</b>	Cyclophosphamide
<b>DEHP</b>	Di-(2-ethylhexyl) phthalate
<b>DOX</b>	Doxorubicin
<b>HDPE</b>	High-density polyethylene
<b>MABS</b>	Methyl methacrylate-acrylonitrile-butadiene-styrene
<b>MTX</b>	Methotrexate
<b>PA</b>	Polyamide
<b>PC</b>	Polycarbonate
<b>PE</b>	Polyethylene
<b>POM</b>	Polyoxymethylene
<b>PP</b>	Polypropylene
<b>PTFE</b>	Polytetrafluoroethylene
<b>PVC</b>	Polyvinyl chloride
<b>SEBS</b>	Styrene ethylene butylene styrene
<b>TPE</b>	Thermoplastic elastomer

Key of symbols	
	Sterilized using ethylene oxide
	Sterilized using irradiation
	Non-sterile
	Do not reuse
	Does not contain DEHP



# BD: Your partner in advancing the quality of oncology care

A key part of oncology care is the safe and effective delivery of medications that contain hazardous drugs.

BD is conducting Oncology Care Assessments that could potentially benefit your organization using BD products. We use an advanced methodology that includes powerful digital tools to provide analytics and benchmarks, and provide evidence-based recommendations, including the use of BD products.

It starts with interviews in Pharmacy and Nursing leadership as well as other important stakeholders on the frontlines who are preparing and administering HDs. It also includes procedural observations which are an extremely important part of the process.

Within days of the interviews and observations taking place, you will receive a customized report. The results will help enable you to work from an actionable roadmap for safe handling of hazardous drugs.

In sum, it has been our experience that inferior practices can create unnecessary risks and costs across the entire system. These Oncology Care Assessments are designed to help identify opportunities to minimize risks to patients, protect health care workers, save on drug spend and comply with standards.

To learn more, contact your oncology and vascular care territory manager today.





Let's advance oncology care in your facility





For more information on our products and services, talk to your BD sales representative or call **1.888.237.2762**.

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