

PRESCRIPTION

PATIENT ACCESS

PREPARATION

APPLICATION

DISCHARGE  
MANAGEMENT

**Certofix<sup>®</sup>**

Central Venous Catheter Sets

# Your Partner for Central Venous Catheters



## BROAD RANGE OF CHOICES FOR ANY APPLICATION

The B. Braun Certofix® product range offers a comprehensive portfolio of acute central venous catheter (CVC) sets for both adult and paediatric patients. Certofix® CVCs are used in various acute care environments in the hospital.

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## INDICATED THERAPIES

- Vasopressors/Inotropes
  - Vessel-irritating drugs
  - Parenteral nutrition
  - IV Solutions with high osmolality
  - Chemotherapy
  - Difficult peripheral vein access
  - Hemodynamic monitoring\*
  - Transfusion of blood products
- 

\* In combination with other devices e.g. Pulmonary Artery Catheter

## USER ENVIRONMENTS

EMERGENCY ROOM



OPERATING ROOM



ICU



ONCOLOGY



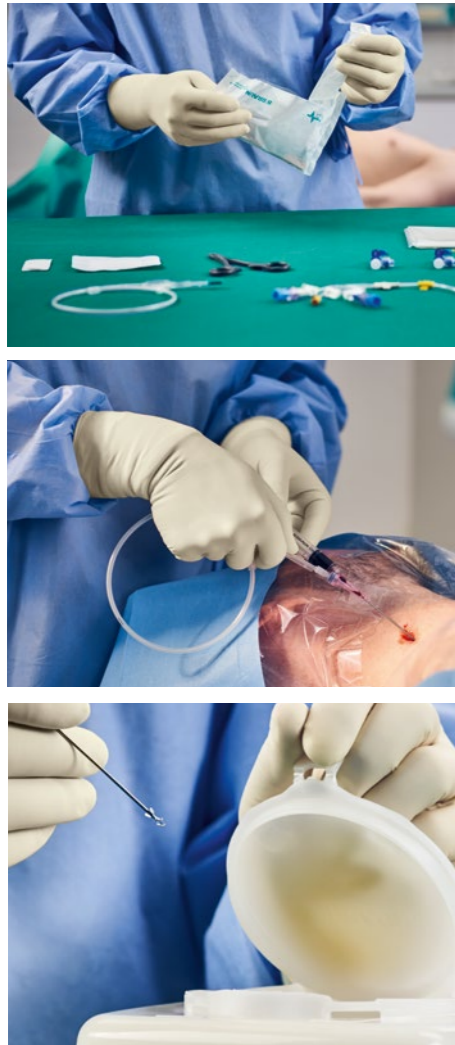
PAEDIATRICS



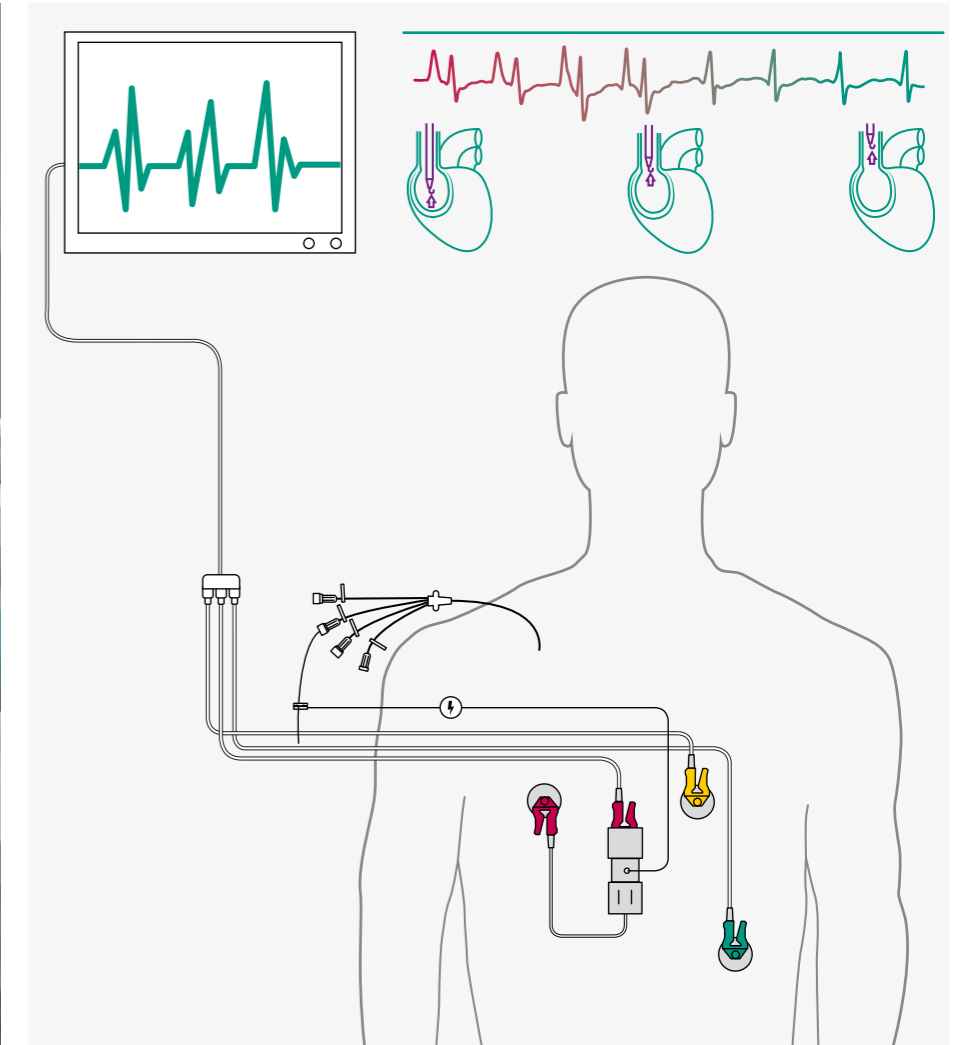
# CVC Placement with Certofix®

B. Braun – Your System Partner for Ultrasound-guided CVC Placement and ECG-guided Catheter Tip Positioning

## POINT OF CARE ULTRASOUND GUIDED CVC PLACEMENT



## INTRAATRIAL ECG FOR CATHETER TIP POSITIONING



Safety Seldinger needle

- Active safety clip (after use) to prevent needle stick injury



Valve needle

- Allows guidewire insertion and aspiration without disconnecting the syringe
- Prevents air embolism and excessive blood loss during guidewire insertion



Safety Scalpel

- The scalpel can be slid back into the housing and blocked to prevent sharps injury



The Nitinol Guidewires

- Flexible and resilient to kinking or knotting, to facilitate successful insertion of guidewire and placement of CVC
- "J" and a straight tip in one wire. Both tips are flexible and suitable for insertion
- All guidewires have length markings



Certodyn® Universal Adapters, Alphacard® and ECG Cable

- Accessories to confirm CVC tip position during or after placement via Intraatrial ECG. Compatible with most commonly used ECG monitors.

Selected highlight products depicted. See overview on page 8/9 (Certofix® Set Configurations).



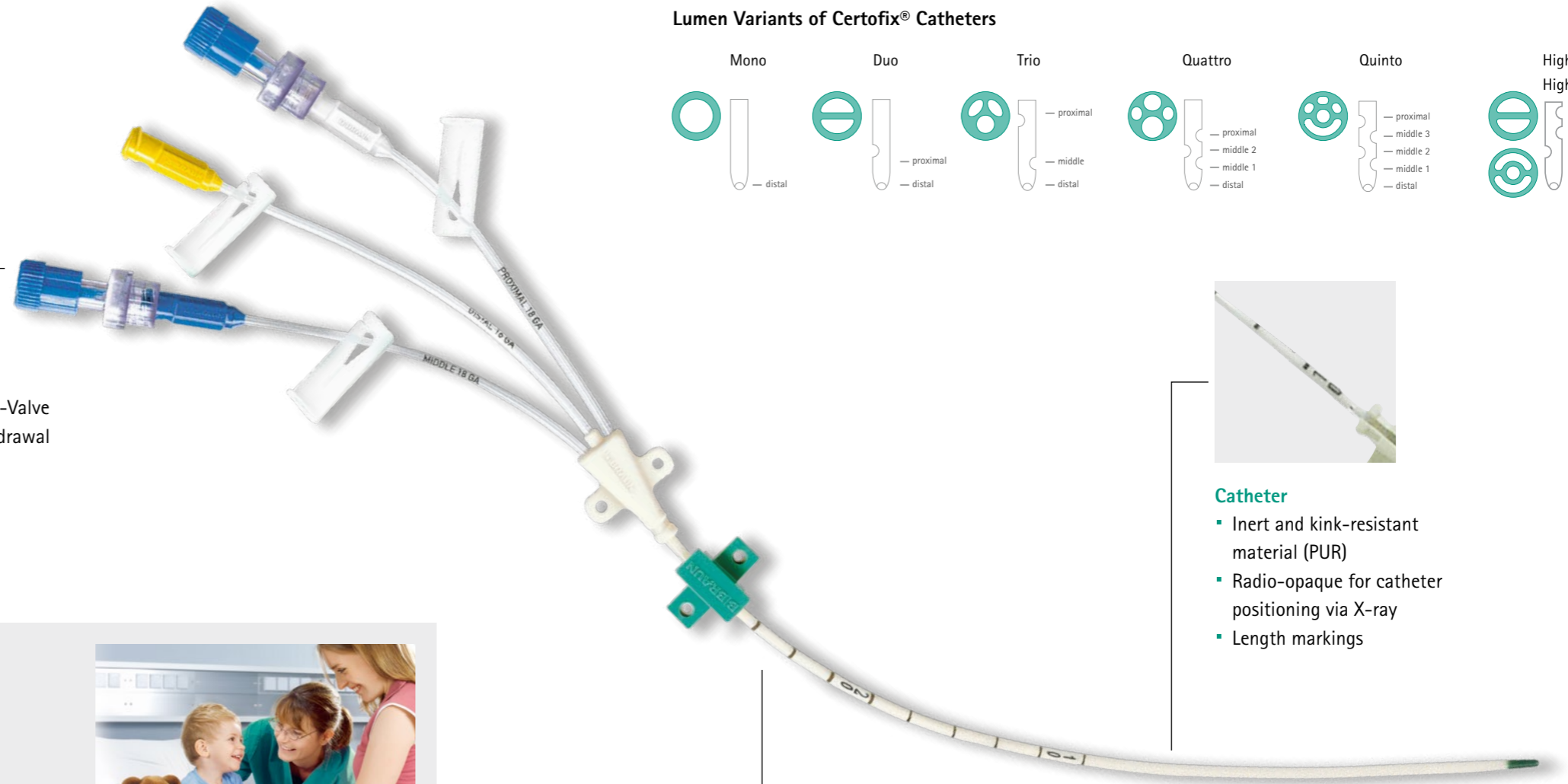
### IN-Stopper (for Certofix® Econoline only)

- Offers needle access via the integrated latex-free membrane
- Smooth outer surface for easy disinfection
- Supports contact-free Luer tapers

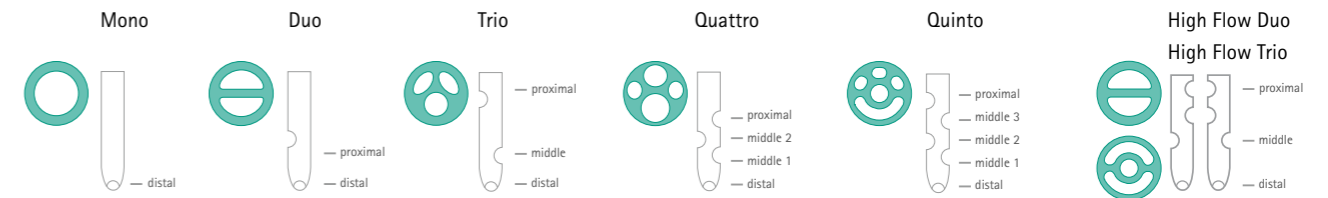


### Safsite® valve

- Needle-free Injection / Infusion-Valve
- Allows infusion and blood withdrawal without flow restriction



### Lumen Variants of Certofix® Catheters



### Catheter

- Inert and kink-resistant material (PUR)
- Radio-opaque for catheter positioning via X-ray
- Length markings

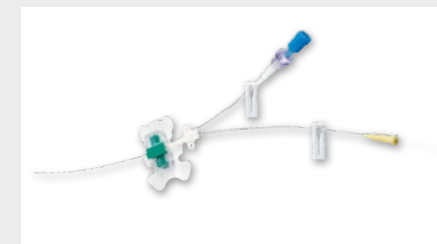
### Also available for the paediatric patients... Certofix® Paed

Acute central venous catheter sets for infants and paediatric patients via Seldinger technique.



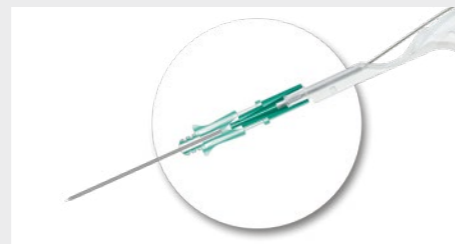
### "Teddy Bear" Statlock fixation\*

- Non-sutured catheter fixation
- Tolerated by infants and children



### Choice of catheter

- Various sizes and lumen available for infant and paediatric patients according to age, body weight and therapy needs



### Dispenser adapter

- Premounted to paediatric guidewire dispenser
- Facilitates advancing guidewire tip into the introducer needle



### Movable Fixation Clips

- To adjust optimal skin fixation position with sutured or non-sutured fixation

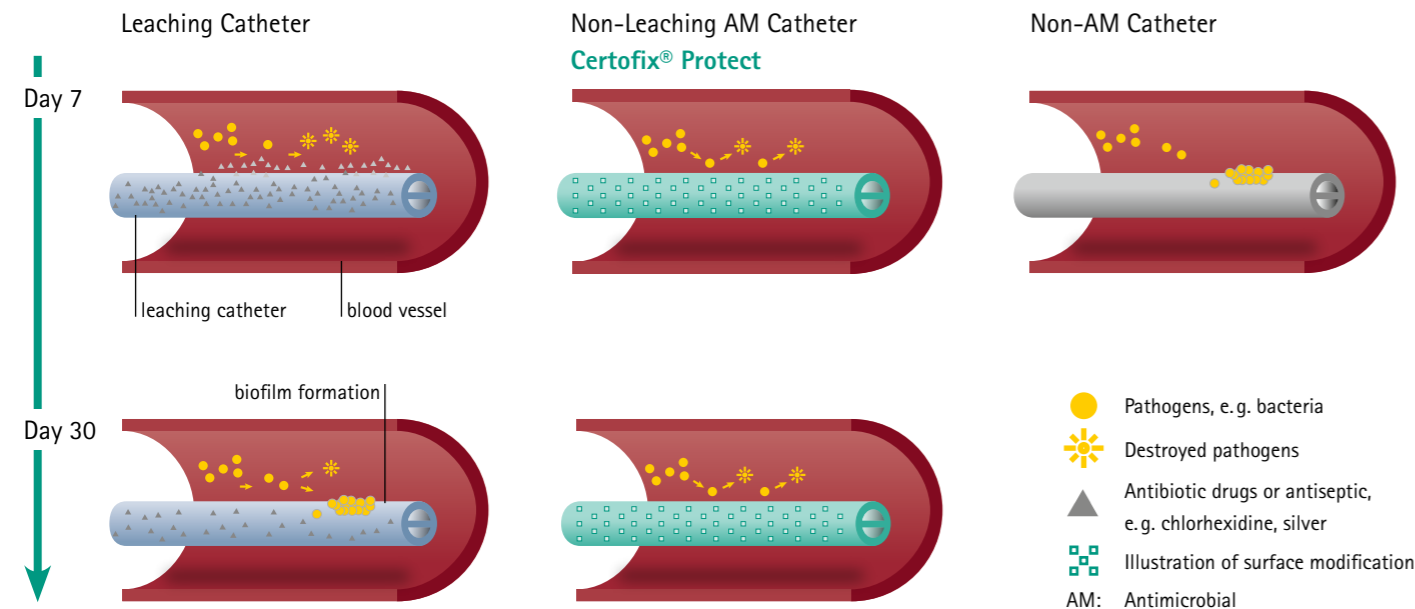


### Soft tip

- Soft and pliant tip material (PUR)

# Certifix® Protect

Central Venous Catheters with Proven Non-leaching Antimicrobial Effect  
Durable over 30 Days



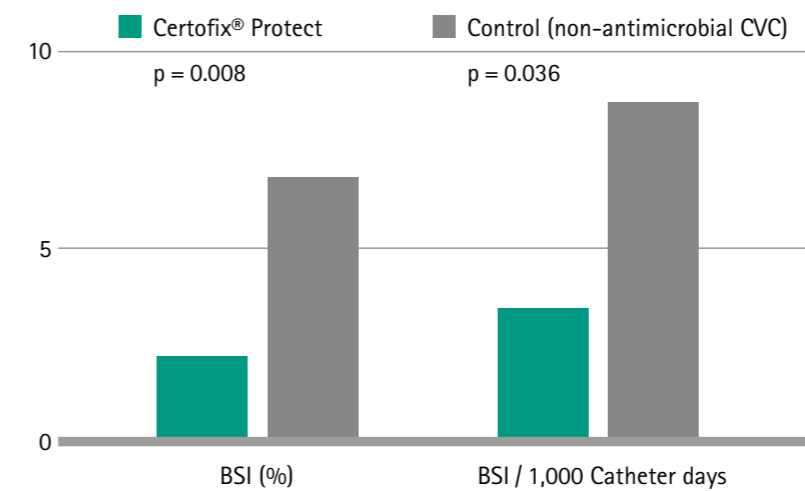
Antimicrobial CVCs	"Leaching"	"Non-Leaching"
<b>Antimicrobial material</b>	Coated or impregnated with silver, antiseptics (chlorhexidine) or antibiotic drugs	A non-leaching technology with polymer surface modification, on both outer surface and internal luminal surface
<b>Mode of Action</b>	Antimicrobial effect by active release of antibiotic drug or antiseptics which directly damage and inhibit pathogen growth	Antimicrobial effect by polymer surface modification, prevent adhesion of pathogens, microbial colonization and biofilm formation <sup>7-9</sup>
<b>Durability</b>	Antimicrobial activity against pathogen declines significantly at day 7 and disappears at 28 days of dwell time <sup>10</sup>	Antimicrobial activity does not decline. Proven durability over 30 days <sup>9</sup>
<b>Antimicrobial Spectrum</b>	Gaps in antimicrobial spectrum from material with ionized silver or antibiotic drugs <sup>10</sup>	Antimicrobial effect proven with all typical CLABSI* eligible pathogens <sup>8-9</sup>
<b>Risks and Concerns</b>	- Risk of adverse effects from antibiotics <sup>11</sup> - Concern of antibiotic resistance <sup>11-14</sup>	- Antibiotic-free

\*CLABSI: Central line-associated bloodstream infections  
\*\* CRBSI: Catheter-related bloodstream infections

Note: The illustrations are to be used for explaining mechanism only

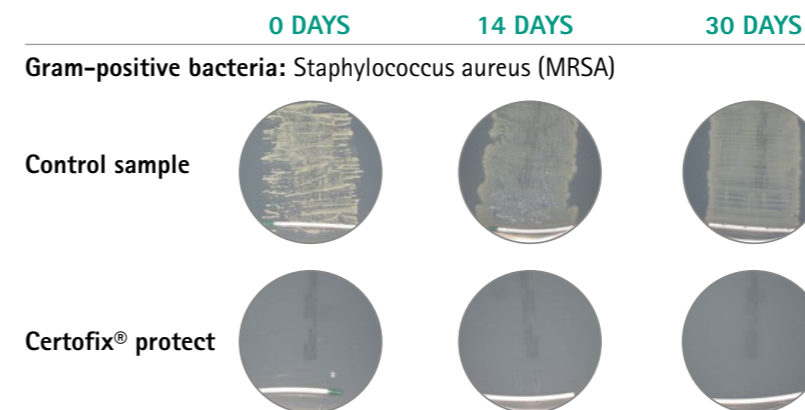
## Infectious complications can occur during prolonged use of CVCs

- Central line-associated bloodstream infections, (CLABSI) are associated with increased morbidity, mortality, and health care costs<sup>1,2</sup>
- Biofilm formation is the key process in the pathogenesis of CLABSI<sup>3,4</sup>
- Risk of CRBSI\*\* rapidly increase from dwell time at day 7-9<sup>5</sup>



## A clinical study with Certifix® Protect has proven (n=616):

- Use of Certifix® Protect is associated with significant reduction of blood stream infection (BSI) from 6.5% to 2% and from 8.3 to 3.2/1,000 Catheter days
- The group using Certifix® Protect underwent less antibiotic therapy<sup>6</sup>



## The "Roll-out" test showed:

- Certifix® Protect prevents microbial colonization and biofilm formation over 30 days
- The antimicrobial efficacy is proven with typical bacteria and fungi causing CVC associated blood stream infection<sup>9</sup>



## The same test results were obtained for:

- Staphylococcus epidermidis, Pseudomonas aeruginosa
- Escherichia coli, Enterococcus faecalis
- Klebsiella pneumoniae
- Fungi: Candida albicans

# Certofix® Set Configurations

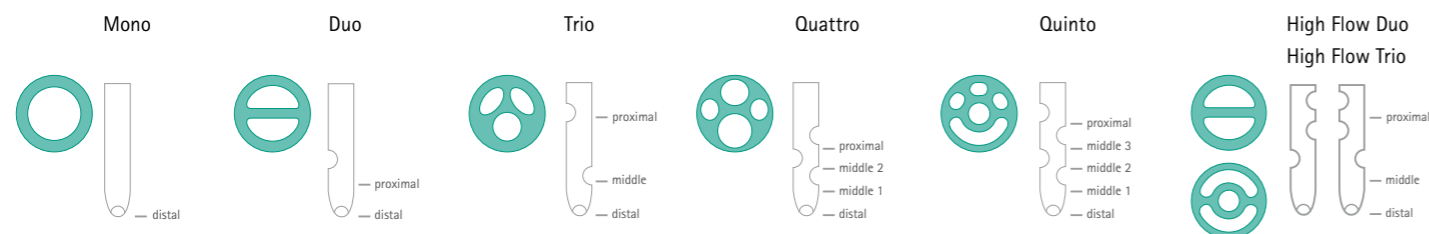
Set Configuration	Catheter Variants (only one catheter in each set)							Accessories							
	Mono	Duo	Trio	Quattro	Quinto	HF Duo	HF Trio	Introducer Needle	Nitinol Guidewire	Syringe	Scalpel	Dilator	ECG Cable	Needle-free connector	Non-sutured Fixation
Certofix® Standard S Sets	■	■	■		■			Seldinger	■	■	■*	■	■	Safsite®*	
Certofix® Standard V Sets	■	■	■	■	■			Valve	■	■	■*	■	■	Safsite®*	
Certofix® Protect	■	■	■	■	■	■	■	Valve	■	■	■*	■	■	Safsite®*	
Certofix® High Flow						■	■	Valve / Seldinger	■	■	■	■	■	Safsite®	
Certofix® Safety	■	■	■	■	■			Safety Seldinger	■	■	■**	■	■	Safsite®*	
Certofix® Econoline	■	■	■					Seldinger	■			■		Instopper	
Certofix® Paed	■	■	■					Seldinger	■	■	■	■*	■	Safsite® or Discofix® 3-way stopcock	Statlock

HF: high flow

\* Not in sets with Mono Lumen CVC

\*\* Safety Scalpel

## Lumen Variants of Certofix® Catheters



ProSet Customized CVC kits in modular system  
<https://www.bbraun.com/en/products-and-therapies/services/proset.html#>



More Information on Product and Therapy  
[www.bbraun.com](http://www.bbraun.com)

# Product Specifications

## Certofix® Standard Sets

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories					Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M1/M2/M3/P	min. Flow Rate (ml/min) D/M1/M2/M3/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®	
Mono V 220	1	4	20	18	18	V	20	50	0.63	5 ml	-	5	1x	-	4160215
Mono V 315	1	5	15	16	60	V	18	50	0.89	5 ml	-	6	1x	-	4160231
Mono V 320	1	5	20	16	52	V	18	50	0.89	5 ml	-	6	1x	-	4160266
Mono V 330	1	5	30	16	40	V	18	70	0.89	5 ml	-	6	1x	-	4160290
Mono V 415	1	6	15	14	90	V	18	50	0.89	5 ml	-	8	1x	-	4160517
Mono V 420	1	6	20	14	80	V	18	50	0.89	5 ml	-	8	1x	-	4160320
Mono V 430	1	6	30	14	75	V	18	70	0.89	5 ml	-	8	1x	-	4160789
Duo V 715	2	7	15	16/16	60/50	V	18	50	0.89	5 ml	1x	8	1x	2x	4166159
Duo V 720	2	7	20	16/16	55/45	V	18	50	0.89	5 ml	1x	8	1x	2x	4161211
Duo V 730	2	7	30	16/16	52/37	V	18	70	0.89	5 ml	1x	8	1x	2x	4161319
Trio V 715	3	7	15	16/18/18	50/28/28	V	18	50	0.89	5 ml	1x	8	1x	3x	4162153
Trio V 720	3	7	20	16/18/18	46/22/22	V	18	50	0.89	5 ml	1x	8	1x	3x	4163214
Trio V 730	3	7	30	16/18/18	38/18/18	V	18	70	0.89	5 ml	1x	8	1x	3x	4163311
Quattro V 815	4	8	15	14/18/18/16	50/20/20/50	V	18	50	0.89	5 ml	1x	9	1x	4x	4167767
Quattro V 820	4	8	20	14/18/18/16	40/15/15/40	V	18	50	0.89	5 ml	1x	9	1x	4x	4167775
Quattro V 830	4	8	30	14/18/18/16	35/10/10/35	V	18	70	0.89	5 ml	1x	9	1x	4x	4167783
Quinto V 1215	5	12	15	16/18/18/18/12	65/32/32/30/225	V	18	50	0.89	5 ml	1x	12	1x	5x	4166841
Quinto V 1220	5	12	20	16/18/18/18/12	55/28/28/28/185	V	18	50	0.89	5 ml	1x	12	1x	5x	4166868

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories					Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M1/M2/M3/P	min. Flow Rate (ml/min) D/M1/M2/M3/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®	
Mono S 215	1	4	15	18	23	S	20	50	0.63	5 ml	-	5	1x	-	4160185
Mono S 220	1	4	20	18	18	S	20	50	0.63	5 ml	-	5	1x	-	4160207
Mono S 315	1	5	15	16	60	S	18	50	0.89	5 ml	-	6	1x	-	4160223
Mono S 320	1	5	20	16	52	S	18	50	0.89	5 ml	-	6	1x	-	4160258
Mono S 330	1	5	30	16	40	S	18	70	0.89	5 ml	-	6	1x	-	4160282
Mono S 415	1	6	15	14	90	S	18	50	0.89	5 ml	-	8	1x	-	4160509
Mono S 420	1	6	20	14	80	S	18	50	0.89	5 ml	-	8	1x	-	4160304
Mono S 430	1	6	30	14	75	S	18	70	0.89	5 ml	-	8	1x	-	4160762
Duo S 715	2	7	15	16/16	60/50	S	18	50	0.89	5 ml	1x	8	1x	2x	4164158
Duo S 720	2	7	20	16/16	55/45	S	18	50	0.89	5 ml	1x	8	1x	2x	4167385
Duo S 730	2	7	30	16/16	52/37	S	18	70	0.89	5 ml	1x	8	1x	2x	4167394
Trio S 715	3	7	15	16/18/18	50/28/28	S	18	50	0.89	5 ml	1x	8	1x	3x	4161159
Trio S 720	3	7	20	16/18/18	46/22/22	S	18	50	0.89	5 ml	1x	8	1x	3x	4167408
Trio S 730	3	7	30	16/18/18	38/18/18	S	18	70	0.89	5 ml	1x	8	1x	3x	4163306
Quinto S 1220	5	12	20	16/18/18/18/12	55/28/28/28/185	S	18	50	0.89	5 ml	1x	12	1x	5x	4166852

### Additional Information Certofix® Standard Sets Et Standard S-Sets

V: Valve Needle, S: Seldinger Needle

D: distal, M: middle, P: proximal

The sales unit of Certofix® Standard Sets is 10 pieces / box

\* Note: Please consider country specific article codes with suffix „-07“

\*\* All catheters are made of PUR, with soft tip and length marking

\*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked

# Product Specifications

## Certofix® Protect

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories					Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M1/M2/M3/P	min. Flow Rate (ml/min) D/M1/M2/M3/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®	
Mono V 320 P	1	5	20	16	52	V	18	50	0.89	5 ml	-	6	1x	-	4160266P
Mono V 330 P	1	5	30	16	40	V	18	70	0.89	5 ml	-	6	1x	-	4160290P
Mono V 420 P	1	6	20	14	80	V	18	50	0.89	5 ml	-	8	1x	-	4160320P
Mono V 430 P	1	6	30	14	75	V	18	70	0.89	5 ml	-	8	1x	-	4160789P
Duo V 715 P	2	7	15	16/16	60/50	V	18	50	0.89	5 ml	1x	8	1x	2x	4166159P
Duo V 720 P	2	7	20	16/16	55/45	V	18	50	0.89	5 ml	1x	8	1x	2x	4161211P
Duo V 730 P	2	7	30	16/16	52/37	V	18	70	0.89	5 ml	1x	8	1x	2x	4161319P
Duo HF V 720 P	2	7	20	14/18	100/27	V	18	50	0.89	5 ml	1x	8	1x	2x	4168534P
Trio V 715 P	3	7	15	16/18/18	50/28/28	V	18	50	0.89	5 ml	1x	8	1x	3x	4162153P
Trio V 720 P	3	7	20	16/18/18	46/22/22	V	18	50	0.89	5 ml	1x	8	1x	3x	4163214P
Trio V 730 P	3	7	30	16/18/18	38/18/18	V	18	70	0.89	5 ml	1x	8	1x	3x	4163311P
Trio HF V 1220 P	3	12	20	16/12/12	55/165/165	V	18	50	0.89	5 ml	1x	12	1x	3x	4160622P
Quattro V 815 P	4	8	15	14/18/18/16	50/20/20/50	V	18	50	0.89	5 ml	1x	9	1x	4x	4167767P
Quattro V 820 P	4	8	20	14/18/18/16	40/15/15/40	V	18	50	0.89	5 ml	1x	9	1x	4x	4167775P
Quattro V 830 P	4	8	30	14/18/18/16	35/10/10/35	V	18	70	0.89	5 ml	1x	9	1x	4x	4167783P
Quinto V 1220 P	5	12	20	16/18/18/18/12	55/28/28/28/185	V	18	50	0.89	5 ml	1x	12	1x	5x	4166868P

### Additional Information Certofix® Protect

V: Valve Needle  
D: distal, M: middle, P: proximal

The sales unit of Certofix® Protect Sets is 10 pieces/box

- \* Note: Please consider country specific article codes with suffix „-07“
- \*\* The base material of the central venous catheter consists of polyurethane. All lumen, including the hub and the outer surface of the catheter are coated with a long-chain high-molecular polymer-based methacrylate. This modified surface is non-covalently linked to the polyurethane catheter material and is embedded and bonded to the base material of the catheter. The polymer's chemically modified side groups are freely accessible on the catheter surface. They contain hydrophilic side groups such as polyethylene glycol and antiseptic biguanide side groups. The side chain which is derived from a polymeric biguanide is chemically similar to the antiseptic polihexanide.
- \*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked

## Certofix® High Flow

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories					Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M/P	min. Flow Rate (ml/min) D/M/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®	
Duo HF V 715	2	7	15	14/18	105/42	V	18	50	0.89	5 ml	1x	8	1x	2x	4168518
Duo HF V 720	2	7	20	14/18	100/27	V	18	50	0.89	5 ml	1x	8	1x	2x	4168534
Duo HF S 720	2	7	20	14/18	100/27	S	18	50	0.89	5 ml	1x	8	1x	2x	4168528
Duo HF V 920	2	9	20	13/13	95/120	V	18	50	0.89	5 ml	1x	9	1x	2x	4167511
Duo HF V 1215	2	12	15	11/11	260/260	V	18	50	0.89	5 ml	1x	12	1x	2x	4167538
Duo HF V 1220	2	12	20	11/11	230/230	V	18	50	0.89	5 ml	1x	12	1x	2x	4167546
Trio HF V 1215	3	12	15	16/12/12	65/255/255	V	18	50	0.89	5 ml	1x	12	1x	3x	4160614
Trio HF S 1215	3	12	15	16/12/12	65/255/255	S	18	50	0.89	5 ml	1x	12	1x	3x	4160578
Trio HF V 1220	3	12	20	16/12/12	55/165/165	V	18	50	0.89	5 ml	1x	12	1x	3x	4160622
Trio HF S 1220	3	12	20	16/12/12	55/165/165	S	18	50	0.89	5 ml	1x	12	1x	3x	4160586
Protect Duo HF V 720 P	2	7	20	14/18	100/27	V	18	50	0.89	5 ml	1x	8	1x	2x	4168534P
Protect Trio HF V 1220 P	3	12	20	16/12/12	55/165/165	V	18	50	0.89	5 ml	1x	12	1x	3x	4160622P

### Additional Information Certofix® High Flow

V: Valve Needle, S: Seldinger Needle  
D: distal, M: middle, P: proximal

The sales unit of Certofix® High Flow Sets is 10 pieces/box

- \* Note: Please consider country specific article codes with suffix „-07“
- \*\* All catheters are made of PUR, with soft tip and length marking
- \*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked



# Product Specifications

## Certofix® Safety

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories					Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M1/M2/M3/P	min. Flow Rate (ml/min) D/M1/M2/M3/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®	
Mono S 320	1	6	20	16	52	Safety	18	50	0.89	5 ml	-	6	1x	-	4160258S
Mono S 330	1	6	30	16	40	Safety	18	70	0.89	5 ml	-	6	1x	-	4160282S
Duo S 720	2	7	20	16/16	55/45	Safety	18	50	0.89	5 ml	Safety	8	1x	2x	4167385S
Duo S 730	2	7	30	16/16	52/37	Safety	18	70	0.89	5 ml	Safety	8	1x	2x	4167394S
Trio S 720	3	7	20	16/18/18	46/22/22	Safety	18	50	0.89	5 ml	Safety	8	1x	3x	4167408S
Trio S 730	3	7	30	16/18/18	38/18/18	Safety	18	70	0.89	5 ml	Safety	8	1x	3x	4163306S
Quattro S 820	4	8	20	14/18/18/16	40/15/15/40	Safety	18	50	0.89	5 ml	Safety	9	1x	4x	4167775S
Quinto S 1220	5	12	20	14/18/18/18/12	55/28/28/28/185	Safety	18	50	0.89	5 ml	Safety	12	1x	5x	4166852S

### Additional Information Certofix® Safety

D: distal, M: middle, P: proximal

The sales unit of Certofix® Safety Sets is 10 pieces / box

\* Note: Please consider country specific article codes with suffix „-07“

\*\* All catheters are made of PUR, with soft tip and length marking

\*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked

## Certofix® Paed

Name	Catheter***					Introducer Needle		Guidewire****		Other Accessories					Article No.* (REF)	
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M/P	min. Flow Rate (ml/min) D/M/P	Type	Gauge	Length (cm)	Ø (mm)	Syringe	Scalpel	Dilator (Fr)	Connection cable ECG	Needle Free Connector Safsite®		Statlock catheter fixation
Mono S 110	1	3	10	22	15	S	21	25	0.46	3 ml	1x	-	1x	(instead of Safsite®) 1x Infusion extension line 1x Discifix® 3-way stopcock	1x	4160177**
Duo S 408	2	4	8	22/22	18/18	S	21	50	0.46	5 ml	1x	5	1x	2x	1x	4166906
Duo S 413	2	4	13	22/22	10/10	S	21	50	0.46	5 ml	1x	5	1x	2x	1x	4166922
Duo S 420	2	4	20	22/22	9/9	S	21	50	0.46	5 ml	1x	5	1x	2x	1x	4166949
Duo S 508	2	5	8	18/20	30/15	S	21	50	0.46	5 ml	1x	6	1x	2x	1x	4167112
Duo S 513	2	5	13	18/20	22/11	S	21	50	0.46	5 ml	1x	6	1x	2x	1x	4167139
Duo S 520	2	5	20	18/20	18/9	S	21	50	0.46	5 ml	1x	6	1x	2x	1x	4167155
Trio S 508	3	5	8	20/22/22	30/15/15	S	21	50	0.46	5 ml	1x	6	1x	3x	1x	4167228
Trio S 513	3	5	13	20/22/22	29/10/10	S	21	50	0.46	5 ml	1x	6	1x	3x	1x	4167244
Trio S 520	3	5	20	20/22/22	18/6/6	S	21	50	0.46	5 ml	1x	6	1x	3x	1x	4167260

### Additional Information Certofix® Paed

S: Seldinger Needle

D: distal, M: middle, P: proximal

The sales unit of Certofix® Paed Sets is 10 pieces / box

\* Note: Please consider country specific article codes with suffix „-07“

\*\* Note: Please consider country specific article codes with suffix „-01“ or „-04“

\*\*\* All catheters are made of PUR, with soft tip and length marking

\*\*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked

# Product Specifications

## Certofix® Econoline

Name	Catheter**					Introducer Needle		Guidewire***		Other Accessories		Article No.* (REF)
	Lumen	Size (Fr)	Length (cm)	Lumen Ø (Gauge) D/M/P	min. Flow Rate (ml/min) D/M/P	Type	Gauge	Length (cm)	Ø (mm)	IN-Stopper	Dilator (Fr)	
Mono 215	1	4	15	18	16	S	20	50	0.63	1x	5	4160185E
Mono 220	1	4	20	18	13	S	20	50	0.63	1x	5	4160207E
Mono 315	1	5	15	16	55	S	18	50	0.89	1x	6	4160223E
Mono 320	1	5	20	16	45	S	18	50	0.89	1x	6	4160258E
Mono 330	1	5	30	16	40	S	18	70	0.89	1x	6	4160282E
Mono 415	1	6	15	14	95	S	18	50	0.89	1x	8	4160509E
Mono 420	1	6	20	14	85	S	18	50	0.89	1x	8	4160304E
Mono 430	1	6	30	14	75	S	18	70	0.89	1x	8	4160762E
Duo 715	2	7	15	16/16	60/50	S	18	50	0.89	2x	8	4164156E
Duo 720	2	7	20	16/16	55/45	S	18	50	0.89	2x	8	4162200E
Duo 730	2	7	30	16/16	52/37	S	18	70	0.89	2x	8	4162307E
Trio 715	3	7	15	16/18/18	50/28/28	S	18	50	0.89	3x	8	4161157E
Trio 720	3	7	20	16/18/18	46/22/22	S	18	50	0.89	3x	8	4163206E
Trio 730	3	7	30	16/18/18	38/18/18	S	18	70	0.89	3x	8	4163303E

### Additional Information Certofix® Econoline

S: Seldinger Needle

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The sales unit of Certofix® Econoline Sets is 10 pieces/box

\* Note: Please consider country specific article codes with suffix „-07“

\*\* All catheters are made of PUR, with soft tip and length marking

\*\*\* All guidewires are made of Nitinol, with one soft J tip and one soft straight tip, printed with length markings and ECG marked

### ACCESSORIES FOR CATHETER TIP POSITIONING WITH ECG

Accessories	Description	Article No.*
	<b>Certodyn Universal® Adapter</b>	
	Electronic switch box (for adults)	4150228
	<b>Certodyn Universal® Adapter Paed</b>	
	Electronic switch box (for paediatric patient)	4150724
	<b>Alphacard®</b>	
	Syringe with electrode to Certodyn® universal adapter	U1800401

# Literature

1. The Joint Commission. Preventing Central Line–Associated Bloodstream Infections: A Global Challenge, a Global Perspective. Oak Brook, IL: Joint Commission Resources, May 2012. <http://www.PreventingCLABSIs.pdf>.
2. <https://ecdc.europa.eu/en/publications-data/directory-guidance-prevention-and-control/healthcare-associated-infections-1>
3. Yousif A, Jamal MA, Raad I. Biofilm–based central line–associated bloodstream infections. *Adv Exp Med Biol*. 2015; 830:157–79
4. Elliott TSJ. The pathogenesis and prevention of intravascular catheter–related infections. In: Hamilton H, Bodenham AR. *Central venous catheters*. Chichester [u.a.]: Wiley-Blackwell 2009; 206–209
5. McLaws ML, Burrell AR. Zero risk for central line–associated bloodstream infection: are we there yet? *Crit Care Med*. 2012 Feb; 40(2):388–93
6. Krikava I, et al. The efficacy of a non-leaching antibacterial central venous catheter – a prospective, randomized, double-blind study. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub*. 2019. [Epub ahead of print]
7. Richards GA, et al. Investigation of biofilm formation on a charged intravenous catheter relative to that on a similar but uncharged catheter
8. Brunke J, Riemann T, Roschke I, 30 days antimicrobial efficacy of non-leaching central venous catheters (Poster 063), *Critical Care* 2016, Volume 20 Suppl 2.
9. Brunke J, et al. Quantitative comparison of the antimicrobial efficiency of leaching versus nonleaching polymer materials. *Macromol Biosci*. 2016, 16, 647–654
10. Hanna H, et al. Comparative in vitro efficacies and antimicrobial durabilities of novel antimicrobial central venous catheters. *Antimicrob Agents Chemother*. 2006 Oct;50(10):3283–8
11. Yasukawa T, Fujita Y, Sari A. Antimicrobial impregnated central venous catheters. *N Engl J Med*. 1999 Jun 3; 340(22):1762
12. Raad I, Hanna H, Jiang Y, Dvorak T, Reitzel R, Chaiban G, Sherertz R, Hachem R. Comparative activities of daptomycin, linezolid, and tigecycline against catheter–related methicillin-resistant *Staphylococcus bacteremic* isolates embedded in biofilm. *Antimicrob Agents Chemother*. 2007 May; 51(5):1656–60
13. Tambe SM, Sampath L, Modak SM. In vitro evaluation of the risk of developing bacterial resistance to antiseptics and antibiotics used in medical devices. *J Antimicrob Chemother* 2001; 47: 589–98
14. Sampath LA, Tambe SM, Modak SM. In vitro and in vivo efficacy of catheters impregnated with antiseptics or antibiotics: evaluation of the risk of bacterial resistance to the antimicrobials in the catheters. *Infect Control Hosp Epidemiol* 2001; 22: 640–6