

Optilene[®]

An extraordinary monofilament suture for Cardiovascular Surgery

Non-absorbable monofilament suture made of polypropylene and polyethylene



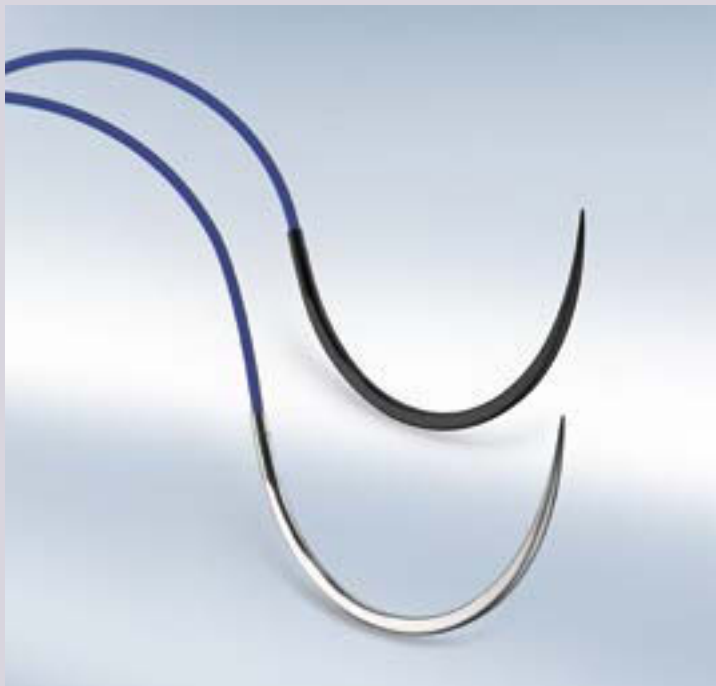
Sutures

Optilene®

An extraordinary monofilament suture for Cardiovascular Surgery



An increasingly aging population combined with more complex and diffuse cardiac diseases result in more challenging cardiac cases in daily practice. For that reason B. Braun is committed to providing you with the **high quality and innovative surgical products** sharing with you the same **Passion for Cardiovascular Surgery**.



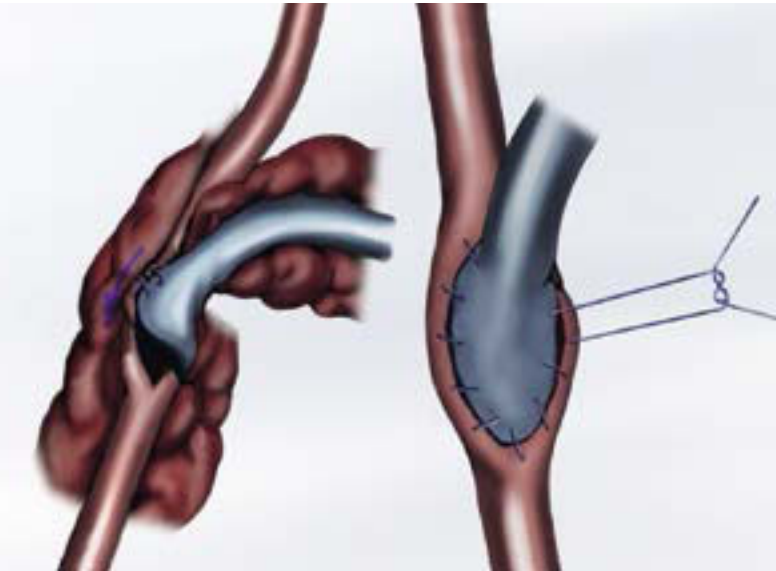
Optilene® is a non-absorbable monofilament suture made of polypropylene and polyethylene which has been specifically designed for Cardiovascular Surgery. The main indications are:

Cardiovascular Surgery

- CABG anastomosis
- Other cardiac and vascular anastomosis
- Valve repair procedures



Precision and ease of use, our top priorities



The additives included in the new formulation as well as our special extrusion process provide Optilene® with **precision and ease of use**.

Some of the benefits of our new Optilene®:

- Top level consistent tensile strength
- Excellent surface smoothness which leads to precise and controlled knot run down and small tissue drag
- Reengineered elasticity for good touch and controlled suture elongation in microsurgery sizes
- Increased pliability for good handling and knot tightness
- Improved thread visibility thanks to new dyestuff formulation for enhanced visual comfort in operating field
- High thread "pig-tailing" resistance even in case of hard tissues
- Low memory effect thanks to the RacePack® packaging for easy handling

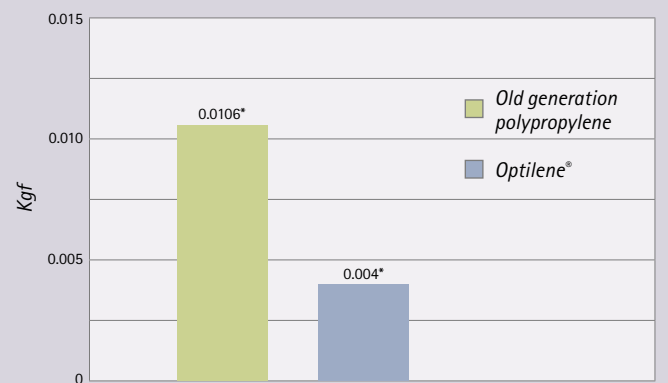


Excellent smoothness



Low memory effect

Roughness



* Average roughness drag force in USP 4/0
Data on file



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CV pass needles offer:

- Excellent penetration pass after pass even in atheromathous tissues
- Hold precision
- Low traumaticity
- Improved needle to thread ratio
- High bending resistance
- Enhanced visibility in the operating field

Our CV Pass needles are made of 300 series stainless steel to provide superior bending resistance and ductility as well as an improved needle penetration thanks to its geometry, surface treatment and silicone coating. We offer them in a wide portfolio for CV surgery.

■ Excellent penetration

■ Taper point

Eases penetration with lowest traumaticity



■ Short cutting point

Improves penetration through calcified tissues with less force



■ Low reflection

- Needles also available as Easyblack needles which reduce reflection by up to 60 %* and permit better visibility and less visual fatigue

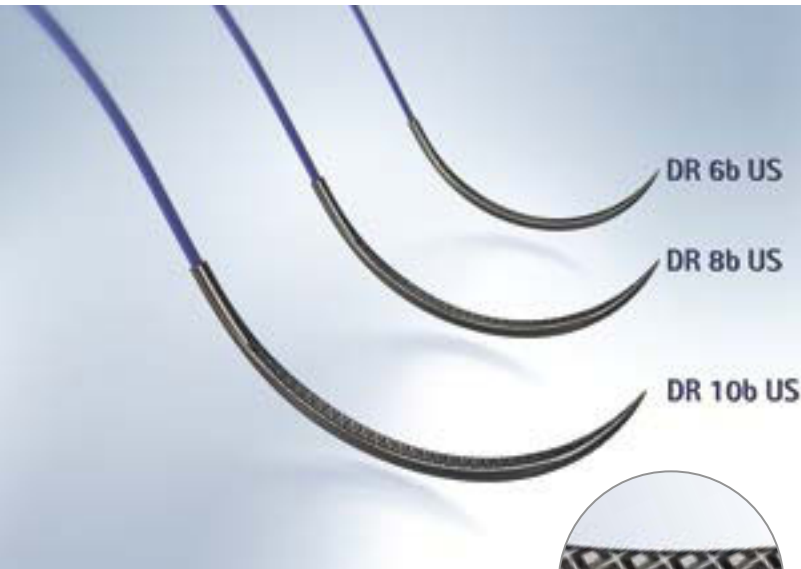


* Data on file



Optilene® Ultraslide®

New CABG Ultraslide® needles with Micro Cavity Technology



Micro Cavity Technology

New patented technology available for CABG surgery.

CABG Ultraslide® needles have been designed for those cardiac surgeons who perform each anastomosis as a masterpiece.

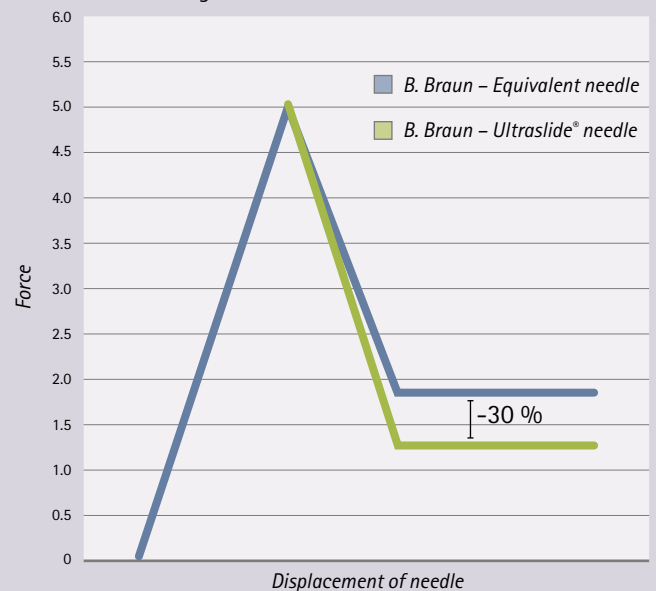
The Ultraslide® needles set new standards for sliding through the tissue, which can lead to lower traumaticity, due to the needle-tissue friction reduction effect of the Micro Cavity Technology. **30 % less force** is required to pass through the tissue with the Ultraslide® needles in comparison to standard needles*.



Low reflection needles

Tracking force needle body comparison

Better sliding – Less force



* Data on file

Low traumaticity

- Finer needle versions, labelled as "f", with up to 43 % less cross section surface for precise needle to thread ratio that leads to lower traumaticity and less bleeding

Reinforced needle zone tapers off gradually

- Reinforced versions, labelled as "s", also available

Semi square body design:

- Improves bending strength resistance
- Enhances stability in the needleholder



Optilene®

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Product overview

Structure	Monofilament
Colour	Blue
Chemical composition	Polypropylene and polyethylene
Coating	Uncoated
Origin	Synthetic
Sizes	USP 10/0 (0.2 metric) to USP 0 (3.5 metric)
Type of absorption	Non-absorbable
Indication	Cardiovascular, neurosurgical, ophthalmological and micro surgery and general soft tissue approximation
Sterilization	Ethylene oxide



Needle-thread combination

Needle			Thread	USP metric						
length mm	angle	diameter microns	length cm colour	10/0 0.2	9/0 0.3	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5
3/8 circle round bodied Ultraslide® needle										
	DR 6b	 140µ	45 Blue			G3096116				
			45 60 75 Blue			C3096111 C3096127 C3096152				
	2xDR 6b	 140µ	60 2 x 45 2 x 60 Blue			G3096118 G3096102 G3096105				
			 140µ							
	DR 8b	 175µ	45 Blue			C3096117				
			45 60 75 Blue			C3096100 C3096129 C3096143	C3096121 C3096141			
	2xDR 8b	 175µ	60 75 2 x 60 Blue			G3096119 G3096138 G3096106				
			 175µ							
	DR 10b	 200µ	75 Blue				C3096167	C3096169		
			60 75 Blue				C3096125 C3096145	C3096123 C3096148		
	2xDR 10b	 200µ	60 2 x 45 2 x 60 2 x 75 Blue				G3096137 G3096101 G3096108	G3096151 G3096104		
			 200µ							
1/2 round bodied micro-needle with taper point										
	2xHRm 6	 200µ	45 Blue				G3090742	G3090743		

C Box of 36 units

B Box of 24 units

G Box of 12 units

M Box of 6 units

Optilene®

Needle-thread combination

Needle			Thread	USP metric										
length mm	angle	diameter microns	length cm colour	10/0 0.2	9/0 0.3	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5				
3/8 round bodied micro-needle with taper point														
	135°	70µ	10	G3090781										
			Blue											
	135°	100µ	15	G3090782										
			Blue											
	135°	100µ	45		G3090482									
			Blue											
	135°	140µ	15		G3090783									
			45								G3090883			
	135°	140µ	45			G3090780								
			60								G3090609			
			Blue											
3/8 round bodied micro-needle with short cutting point														
		135°	 200µ	75				G3090693						
				Blue										
3/8 circle round bodied micro vascular needle with taper point														
		135°	 320µ	60				G3095201						
				90							G3095746			
				Blue										
			 320µ	75									G3095133	
				90										G3095132
				Blue										
 320µ	2 x 60				G3095269									
	Blue													



Needle-thread combination

Needle			Thread	USP metric						
length mm	angle	diameter microns	length cm colour	10/0 0.2	9/0 0.3	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5
3/8 progressive curved round bodied micro vascular needle with taper point										
 2xPRmV 10b 	95°/90°	 200µm	75 Blue					G3090670		
3/8 round bodied micro vascular needle with short cutting point										
 2xDRCmV 10b 	135°	 200µm	75 Blue				G3095685	G3095672		
Progressive curved round bodied micro vascular needle with short cutting point										
 2xPRCmV 10b 	135°	 200µm	75 Blue					G3090668		
3/8 circle micro-lancet needle										
2xDLm 6 	140°	150µm	30 Blue	G3090591						
Lancet needle straight										
2xGLm 16 		150µm	23 Blue	G3095480						

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Needle-thread combination

Needle			Thread	USP metric							
length mm			length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	
1/2 circle round bodied needle											
	2xHR 8			2 x 60 Blue			G3095865				
	2xHR 10f			2 x 75 Blue			G3095858				
	HR 10			75 Blue			C3090402				
	2xHR 10			75 Blue		C3090867	C3090868	C3090869			
	2xHR 13ff			75 Blue			C3095341	G3095346			
	2xHR 13f			45 75 Blue			C3095120 C3095123	C3095124			
				2 x 75 Blue			G3095127				
	HR 13			75 Blue				C3090500			
	2xHR 13			60 75 90 Blue			C3090953	C3090954	C3090933 C3090750		
	2xHR 13b			75 Blue				C3095449			

Needle-thread combination

Needle		Thread	USP metric						
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
1/2 circle round bodied needle									
	2xHR 17f 	 75 Blue				C3095501			
	HR 17 	 75 Blue				C3090012	C3090013	C3090014	
	2xHR 17 	 75 90 Blue			C3090898	C3090501 C3090901	C3090503 C3090902	C3090502 C3090903	
		 2 x 75 2 x 90 Blue				G3090642	G3090194	G3095183 G3090644	
	2xHR 17b 	 75 90 Blue				C3095492	C3095461 C3095493	C3095494	
	2xHR 20 	 90 Blue					C3090338		
	HR 22 	 75 Blue					C3090029	C3090030	
	2xHR 22 	 75 90 Blue				C3090975	C3090863 C3090976	C3090860 C3090977	C3090086 C3090978
		 2 x 75 2 x 90 Blue					G3095620	G3095616	

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Needle-thread combination

Needle		Thread	USP metric					
length mm		length cm colour	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
1/2 circle round bodied needle								
 		75				C3090040	C3090041	C3090042
		90				C3090140		C3090043
		120						C3090444
		Blue						
	 	20					C3090495	
		Blue						
 		75			C3090906	C3090707	C3090708	C3090087
		90			C3090905	C3090907	C3090908	C3090909
		120				C3095709	C3090709	C3095710
		Blue						
	 	90				C3090910		
		Blue						
		2 x 90				G3090633	G3090631	
		Blue						
 		75				C3095557		
		90					C3095558	
		Blue						
Needle		Thread	USP metric					
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2
3/8 circle round bodied needle								
 		45	C3090880					
		60	C3090712		C3095110			
		75	C3090980	C3095286				
		Blue						
		2 x 45	G3095841					
		Blue						
 		45	C3095857					
		60	C3095838					
		75	C3095834					
		Blue						

Needle-thread combination

Needle			Thread	USP metric						
length mm			length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
3/8 circle round bodied needle										
	2xDR 8f 		45	C3090107	C3090079					
			60 Blue	C3090105	C3090088					
			2 x 60 Blue		G3090127					
	2xDR 8fb 		45	C3095824	C3095826					
			60 Blue	C3095829	C3095832					
	2xDR 8 		12	C3095870						
			45		C3090685	C3090686	C3090684			
			60	C3090887	C3090888	C3090889				
			75 Blue	C3090004	C3090885	C3090886				
			2 x 45 2 x 60 Blue		G3090364	G3090599				
	2xDR 8b 		45	C3095805						
			60	C3095817	C3095819	C3095821				
			75 Blue	C3095822	C3095823	C3090599				
	DR 10f 		75 Blue		C3095084					
	2xDR 10f 		45		C3090134	C3095565				
			60		C3090135	C3095477				
			75 Blue		C3090136	C3095430				
			2 x 75 Blue		G3095429					
	2xDR 10fb 		75 Blue		C3095838					
	DR 10 		75 Blue		C3090541	C3090542				

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Needle-thread combination

Needle		Thread	USP metric						
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
3/8 circle round bodied needle									
	2xDR 10 	45		C3090614	C3090615				
		60		C3090714	C3090715	C3090522			
		75		C3090914	C3090915	C3090913			
		90		C3090799	C3090815				
		 Blue							
		 2 x 60		G3090611					
		Blue							
	2xDR 10b 	45		C3090164					
		60		C3090062	C3095816				
		75		C3095812	C3095843				
		 Blue							
	DR 13 	75			C3095930	C3095931	C3095932		
		 Blue							
	2xDR 13 	45		C3095885	C3095886				
		60		C3095894	C3095895				
		75		C3095905	C3095906	C3095907	C3095908		
		90			C3095938	C3095939			
		 Blue							
		 2 x 75			G3095979	G3095980			
		Blue							
	2xDR 13b 	60			C3095926				
		75			C3090191	C3090547			
		90			C3095839	C3095840			
		120					C3095997		
		 Blue							



Needle-thread combination

Needle			Thread	USP metric					
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
3/8 circle round bodied needle									
 Pass	2xDR 13s 	 Blue	75			C3095026			
			90			C3095021			
			Blue						
 Pass	2xDR 15 	 Blue	90			C3090716			
 Pass	DR 18 	 Blue	75			C3090119	C3090120	C3095057	
 Pass	2xDR 18 	 Blue	75			C3090719	C3090720		
			90			C3090919	C3090920	C3095921	
			Blue						
 Pass	2xDR 18b 	 Blue	120				C3095656		
 Pass	DR 22 	 Blue	20					C3090492	
			Blue						
 Pass	DR 22 	 Blue	20				C3090991		
			Blue						
 Pass	2xDR 22 	 Blue	75				C3090722	C3090723	
			90				C3090822		
			Blue						
 Pass	DR 26 	 Blue	20					C3090993	
 Pass	2xDR 26 	 Blue	75					C3090724	C3090725
			Blue						

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Needle-thread combination

Needle		Thread	USP metric						
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
1/2 round bodied needle with short cutting point									
 2xHRC 10 		75 Blue				C3095205			
		2 x 75 Blue			G3095313				
 2xHRC 13 		75 Blue			C3095039	C3090303			
		2 x 60 Blue			G3090195				
 HRC 17 		75 Blue					C3090561	C3090579	
 2xHRC 17 		90 Blue				C3090570	C3090571	C3090800	C3095052
	 Pledgets 6x3 mm Firm 	90 Blue						C3095368	
 2xHRC 17b 		90 Blue				C3095580	C3095581		
 HRC 22 		75 Blue						C3090566	
 2xHRC 22 		90 Blue					C3090580	C3090581	

Needle-thread combination

Needle		Thread	USP metric						
length mm		length cm colour	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4
1/2 round bodied needle with short cutting point									
		 75 Blue					C3090474		
		 90 120 Blue			C3090811	C3090812 C3090820	C3095825 C3095140		
		2 x 90 Blue					G3095761		
		 90 Blue			C3095607	C3095608			
		 90 Blue					C3095670		
Needle		Thread	USP metric						
length mm		length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
3/8 round bodied needle with short cutting point									
		 45 60 75 Blue	C3095209 C3095246 C3095272	C3095219					
		 45 60 75 Blue	C3095211 C3090169	C3095046 C3090176	C3090172				
		 75 Blue		C3095813					
		 75 Blue		C3090538					

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Optilene®

Needle-thread combination

Needle			Thread	USP metric						
length mm			length cm colour	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
3/8 round bodied needle with short cutting point										
CV Pass	2xDRC 10			45	C3090116	C3090548				
				60						
				75		C3090545	C3090546			
				Blue						
				2 x 75		G3095560	G3095561			
				Blue						
CV Pass	2xDRC 10b			60	C3095462	C3090577	C3090578			
				75						
				Blue						
CV Pass	DRC 13			75			C3095144			
				Blue						
CV Pass	2xDRC 13			60		C3095268	C3095271	C3095896		
				75		C3095301	C3095175			
				90		C3095303	C3095305	C3095171		
				Blue						
				2 x 75			G3095176			
				Blue						
CV Pass	2xDRC 13b			75			C3095836	C3095315		
				90		C3095311				
				Blue						
CV Pass	2xDRC 13s			75				C3095334		
				Blue						
CV Pass	2xDRC 15			75				C3095756		
				Blue						
CV Pass	2xDRC 18			75				C3095194	C3095195	
				90			C3090525			
				Blue						
CV Pass	2xDRC 22			90					C3090535	C3090536
				Blue						
CV Pass	2xDRC 26			90						C3095636
				120					C3095632	
				Blue						



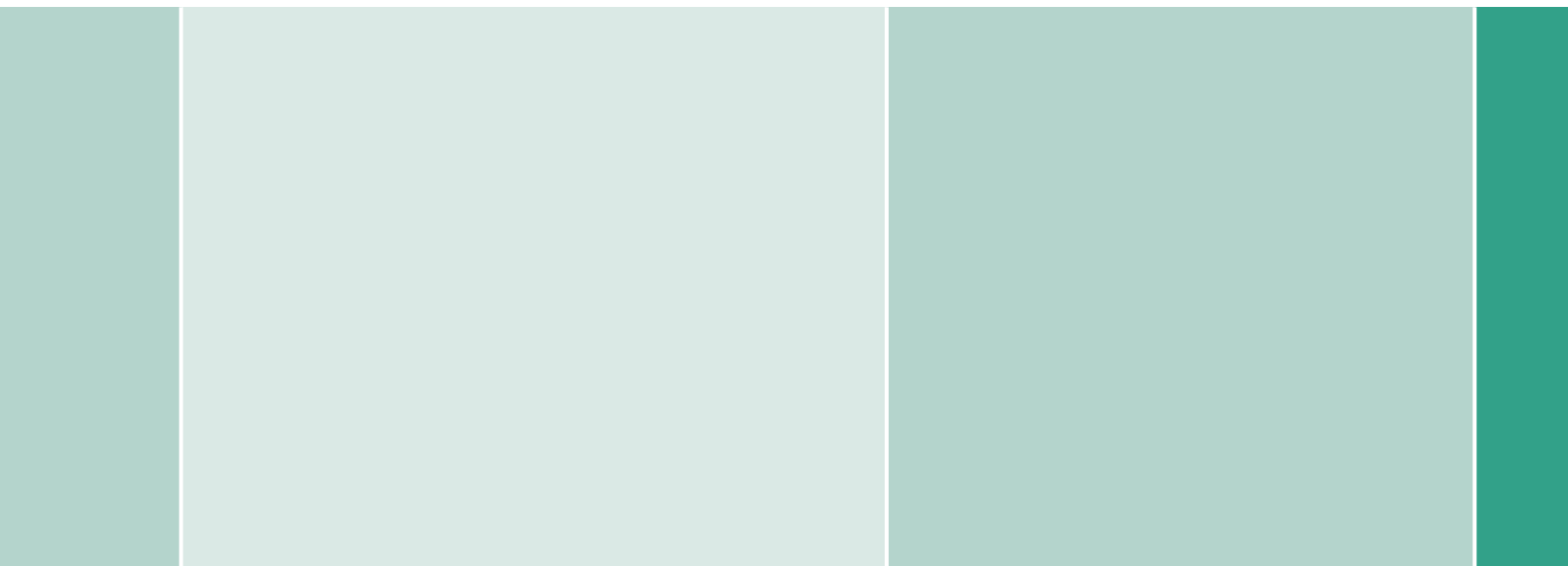
RacePack® packaging



LongPack packaging

Needle-thread combination

Needle length mm	Thread length cm colour	USP metric						
		8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3
Progressive curved round bodied needle with short cutting point								
 Pass	2xPRC 10 	Long pack 2 x 75 Blue		G3095053				
 Pass	2xPRC 13 	RF 2 x 75 Blue			C3095097			



B. Braun Surgical, S.A. | Carretera de Terrassa, 121 | 08191 Rubí | Spain
Phone +34 93 586 6200 | Fax +34 93 699 6330 | www.bbraun.com

Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany
Phone +49 7461 95-0 | Fax +49 7461 95-2600 | www.aesculap.com

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