

## Optilene<sup>®</sup>

### A SMOOTH MONOFILAMENT SUTURE FOR CARDIOVASCULAR SURGERY

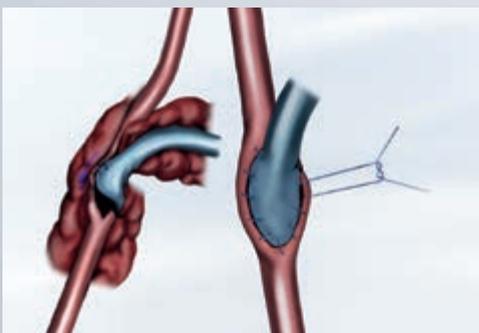
Non-absorbable monofilament suture  
made of polypropylene and polyethylene

# Optilene®

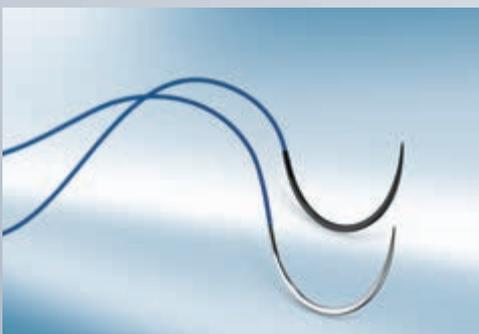
## A SMOOTH MONOFILAMENT SUTURE FOR CARDIOVASCULAR SURGERY



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.



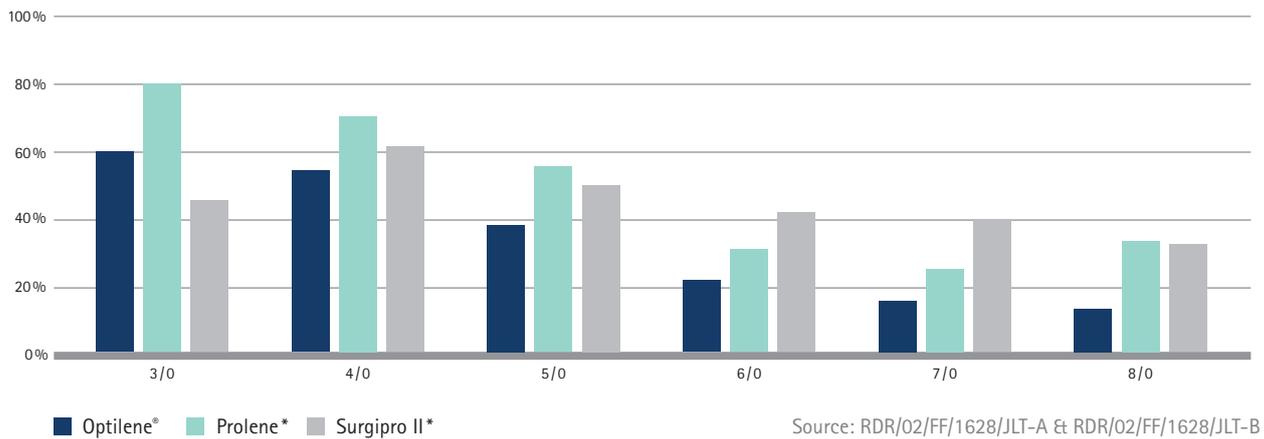
Optilene® is a non-absorbable monofilament suture made of polypropylene and polyethylene which has been specifically designed for Cardiovascular Surgery.



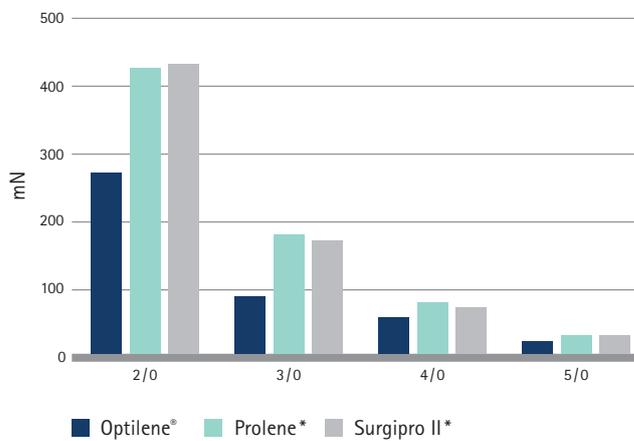
### PRECISION AND EASE OF USE, OUR TOP PRIORITIES

- Superior smoothness and smaller tissue drag than polypropylene sutures.<sup>1-3, 12</sup>
- Controlled knot run-down and proven reliable tensile strength.<sup>4-9</sup>
- Good handling endorsed by cardiothoracic surgeons.<sup>12</sup>
- Lower memory effect than the market standard and high thread "pig-tailing" resistance.<sup>4, 5, 10, 11, 28</sup>
- Reengineered pliability for good touch and controlled suture elongation in microsurgery sizes.<sup>4, 5, 7</sup>
- Improved thread visibility for enhanced visual comfort.<sup>13, 14</sup>

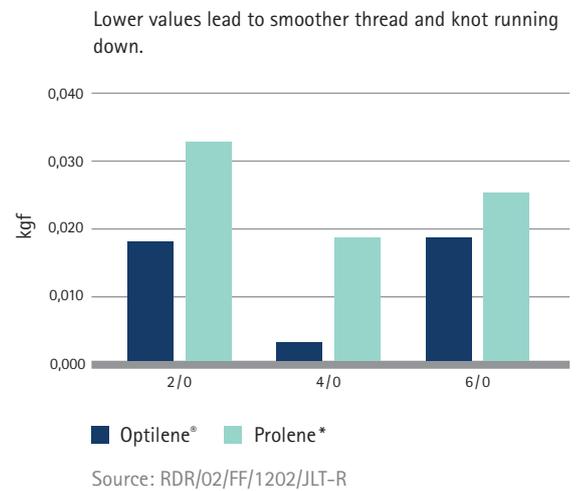
## MEMORY EFFECT



## STIFFNESS



## KNOT RUNNING STRENGTH



Superior smoothness and smaller tissue drag than polypropylene sutures<sup>23-26</sup>



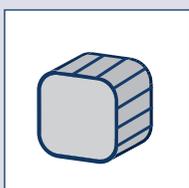
Lower memory effect than the market standard and high thread "pig-tailing" resistance<sup>20-22</sup>

\*The product trademark "Prolene" is a trademark of Ethicon and the product trademark "Surgipro II" is a trademark of Medtronic.

# Optilene®

A SMOOTH MONOFILAMENT SUTURE FOR CARDIOVASCULAR SURGERY

## Optilene® NEEDLES



**Semi square body design**  
Improves bending strength resistance.

Layer of silicon coating



USP

- 2
- 1
- 0
- 2/0
- 3/0
- 4/0
- 5/0
- 6/0
- 7/0
- 8/0
- 9/0
- 10/0

## BOTH RANGES AND ALL USP SIZES FEATURE...

### Excellent penetration

■ Taper point:  
Designed for an easy penetration of soft tissues.<sup>15</sup>



■ Short cutting point:  
Designed to improve penetration through calcified tissues and increase bending strength for cardiovascular indications.<sup>15</sup>



### Range of fine needles for a lower traumaticity

Fine needle versions, labelled as "f", which offer a reduction of up to 38 % in the needle-to-thread ratio compared to the standard needles.<sup>16</sup>



### Reinforced needle

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

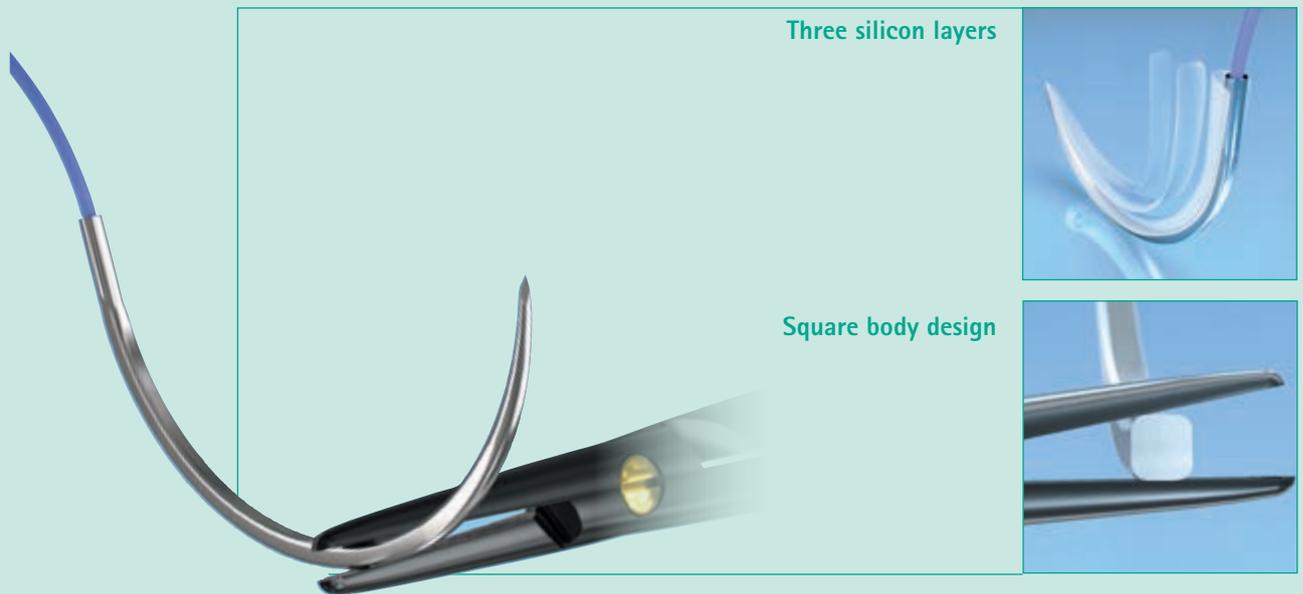
## A NEW NEEDLE GENERATION FOR CARDIOTHORACIC SURGERY

■ Enhanced stability of the needle in the grasp of the needle holder y†, 17, 18

■ Improved successive penetration after repeated stitches y‡. 17-19

### USP\*

- 2
- 1
- 0
- 2/0
- 3/0
- 4/0
- 5/0
- 6/0
- 7/0
- 8/0
- 9/0
- 10/0



\* When needle diameter is up to 0,30 mm

\* Ratio of the areas

‡ In comparison with standard needles. 17-19

† In comparison with Ethicon Multipass needles.

‡ In comparison with standard (steel colour) needles.

### Low reflection

Black and silver versions available. Black needles are specially designed to improve visibility of the needles during the surgical procedure. 15



# OptiCABG

## ASSESSMENT OF THE PERFORMANCE OF OPTILENE FOR CABG



### AIM OF THE STUDY

Evaluate the safety and efficacy of Optilene for CABG surgery in comparison to previously published data.



### HYPOTHESIS

If Optilene's results match those generated in a meta-analysis performed by Nalysnyk et al.\*, it can be branded as safe and effective for CABG surgery.



### PRIMARY ENDPOINT

Incidence of adverse cardiac events like stroke, myocardial infarction, death, renal failure, gastrointestinal bleeding... until day of discharge.



### SECONDARY ENDPOINTS

Several parameters were assessed and classified in two categories: safety and efficacy. Among them are listed:

- Handling of the suture material.
- Incidence of adverse events up to 30 days after discharge.
- Improvement of quality of life and employment status until 3 months postoperatively.
- Death rate until 30 days postoperatively.

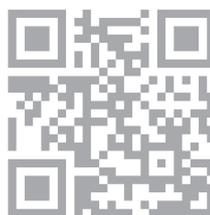


### FOLLOW-UP VISITS

Screening → Surgery → Day of discharge  
→ 30 days ± 10 days postop. → 3 months  
± 2 weeks postop.

### PARTICIPATING HOSPITALS

- GERMANY – Robert-Bosch-Krankenhaus (Stuttgart)
- SPAIN – Hospital de la Santa Creu i Sant Pau (Barcelona)
- ITALY – Ospedale Luigi Sacco (Milano)



READ THE COMPLETE  
OPTICABG STUDY ONLINE:

<https://bbraun.info/opticabg>

\* L. Nalysnyk, K. Fahrbach, M.W. Reynolds, S.Z. Zhao, S. Ross, Adverse events in coronary artery bypass graft (CABG) trials: a systematic review and analysis, Heart 89 (7) (2003 Jul) 767–772 is a review and analysis of CABG studies published from 1990 to 2001 designed to quantify the incidence of major adverse events occurring in hospital or within 30 days after surgery.

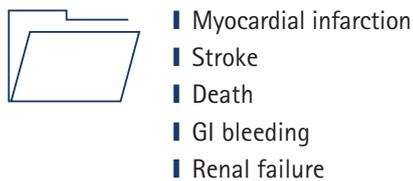
# OPTICABG STUDY

## THE SURGERIES AT A GLANCE



## OUTCOME

### CABG ADVERSE EVENTS ASSESSED



### FACE TO FACE

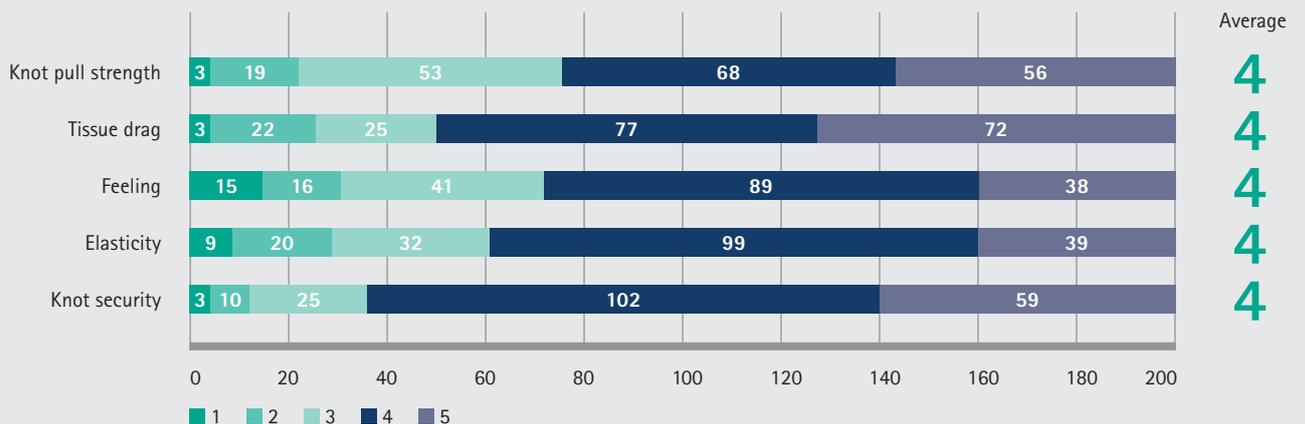
Incidence of CABG adverse events up to day of discharge



Optilene's adverse events rate is lower than the reference rate and can therefore be regarded as a safe and efficient suture for CABG surgery

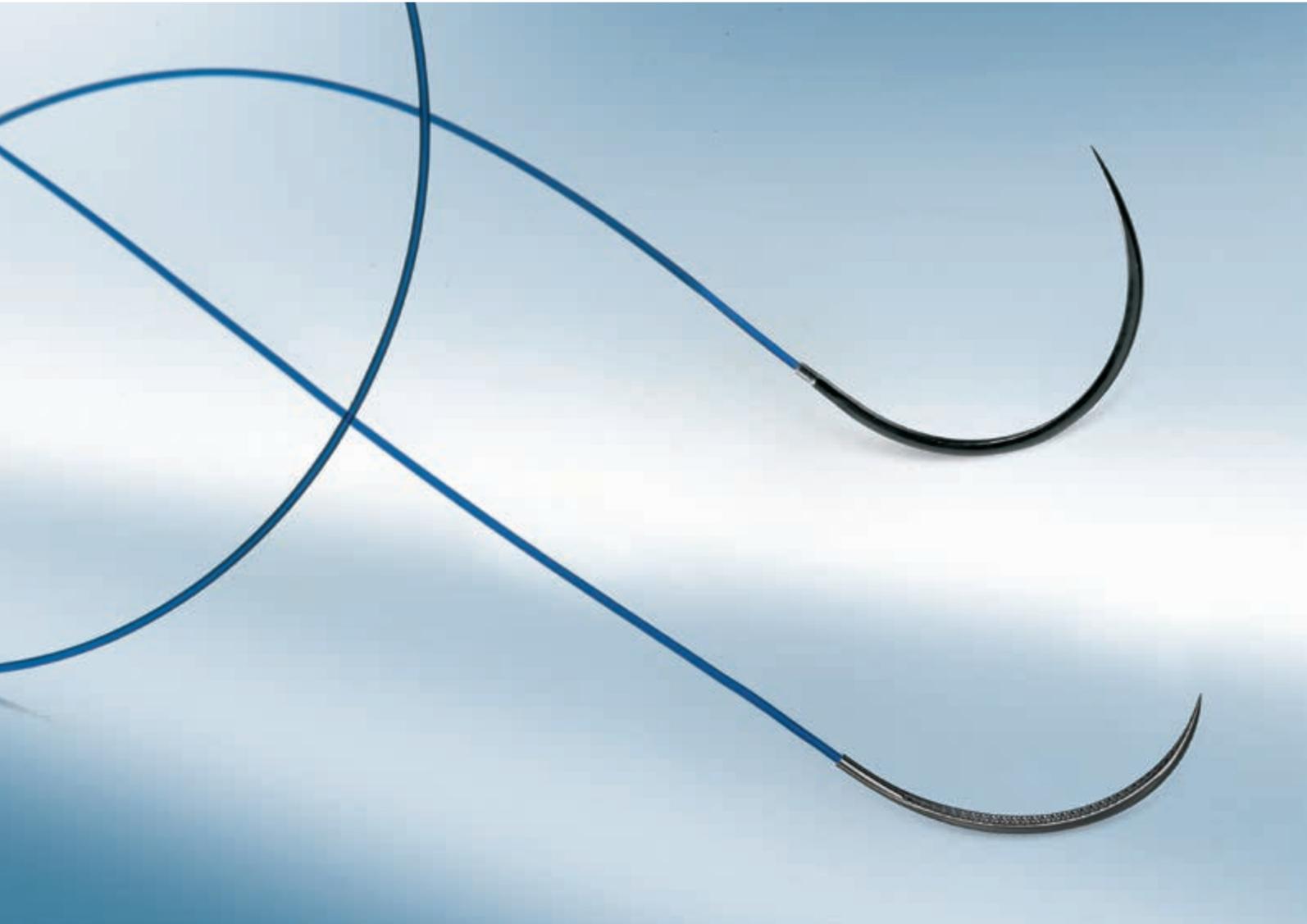
## HANDLING OF THE SUTURE

Assessed by surgeons using a five-point scale (1 worst – 5 best)



# Optilene®

A SMOOTH MONOFILAMENT SUTURE FOR CARDIOVASCULAR SURGERY



## REFERENCES

- 1 Data on file: RTR/02/FF/1202/JLT-
- 2 Data on file: PTR/02/FF/1202/JLT-R
- 3 Data on file: PTR/02/FF/1202/JLT-G
- 4 Data on file: RDR/DID/MON/MAU/16111
- 5 Data on file: RDR/DID/MON/MAU/15191
- 6 Data on file: PTR/02/FF/1202/JLT-B
- 7 Data on file: RTR/02/FF/1202/JLT-O
- 8 Data on file: RTR/02/FF/1202/JLT-R
- 9 Data on file: PTR/02/FF/1202/JLT-G
- 10 Data on file: RDR/02/FF/1628/JLT-A
- 11 Data on file: RDR/02/FF/1628/JLT-B
- 12 OptiCABG study: Ursulescu A, Baumann P, Ferrer MT, Contino M, Romagnoni C, Antona C, Padró Fernández JM. Optilene, a new non-absorbable monofilament is safe and effective for CABG anastomosis. OPTICABG - A prospective international, multi-centric, cohort study. *Ann Med Surg (Lond)*. (2018) 35 (13-19)
- 13 Data on file: PTR/22/1014/MAU
- 14 Data on file: RDR/DID/MON/LFU/18084
- 15 Data on file: PTR/22/13088/FLB.v2
- 16 Data on file: RDR-DID-MON-LCR-19040
- 17 Data on file: RDR-DID-MON-LCR-18170
- 18 Data on file: RDR-DID-MON-AMG-17152
- 19 Data on file: RDR-DID-MON-LCR-19068
- 20 Data on file: RDR/DID/MON/MAU/16111
- 21 Data on file: RDR/02/FF/1628/JLT-A
- 22 Data on file: RDR/02/FF/1628/JLT-B
- 23 Data on file: RTR/02/FF/1202/JLT-
- 24 Data on file: PTR/02/FF/1202/JLT-R
- 25 Data on file: PTR/02/FF/1202/JLT-G
- 26 Results of OPTICABG Study - Handling of the suture material.
- 27 Data on file: PTR/02/FF/1202/JLT-G
- 28 Data on file: RDR/DID/MON/MAU/15191

## PRODUCT OVERVIEW

# Optilene®

Structure	Monofilament
Colour	Blue
Chemical composition	Polypropylene and polyethylene
Coating	Uncoated
Origin	Synthetic
Sizes	USP 10/0 (0.2 metric) to USP 2 (5 metric)
Type of absorption	Non-absorbable
Indication	cardiovascular, neurosurgery, ophthalmology, microsurgery, skin closure and general surgery
Sterilisation	Ethylene oxide



# Optilene®

## NEEDLE-THREAD COMBINATIONS

Needle		Thread length cm colour	USP (metric)							
length mm			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)	0 (3.5)
3/8 circle round bodied needle										
	<b>2xDR 6</b> 	 60 blue	C3095669							
	<b>2xDR 6b</b> 	 45 blue	C3096111							
	<b>DR 6b</b> 	 45 blue	G3096116							
		 60 blue	C3096127							
	<b>2xDR 6b</b> 	 2 x 60 blue	G3096105							
		 75 blue	C3096152							
	<b>2xDR 8b</b> 	 75 blue		C3096141						
		 60 blue	C3096129							
3/8 circle round bodied needle										
	<b>2xDR 10</b> 	 75  45 blue			C3097615	C3097913				
	<b>DR 10</b> 	 75 blue			C3097542					
		 75 blue			C3097915					
	<b>2xDR 10</b> 	 2 x 75 blue			G3097811					
		 60 blue			C3097714					
	<b>DR 10</b> 	 75 blue			C3097541					
		 75 blue			C3097914					
	<b>2xDR 10</b> 	 2 x 75 blue			G3097810					
		 90 blue			C3097799					
	<b>2xDR 13b</b> 	 90 blue				C3097840				

C Box of 36 units	B Box of 24 units	G Box of 12 units	M Box of 6 units
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Needle		Thread	USP (metric)							
length mm	diameter microns	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)	0 (3.5)
3/8 circle round bodied needle										
CV Pass Ultrafine	2xDR 10b 	 60			C3096123					
		 75			C3096148					
		blue								
CV Pass Ultrafine	DR 10b 	 75 200µ			G3096169					
3/8 circle round bodied needle										
	2xDR 10b 	 60			C3097816					
		 75			C3097843					
		 60			C3096125					
		 75 200µ			C3096145					
		2 x 75 Long pack blue			G3096108					
CV Pass Ultrafine	DR 10b 	 75 200µ			G3096167					
3/8 circle round bodied needle										
	2xDR 10b 	 45			C3097164					
		 60			C3097062					
		 75 blue			C3097812					
	2xDR 10f 	 75			C3097430					
		 45			C3097134					
		 60			C3097135					
		 75 blue			C3097136					
	2xDR 10fb 	 75 blue			C3097838					
	DR 12 	 75 blue			G3097529					
3/8 circle round bodied needle										
CV Pass Ultrafine	2xDR 13 	 75 blue					C3095908			
CV Pass Ultrafine	DR 13 	 75 blue					C3095932			

# Optilene®

## NEEDLE-THREAD COMBINATIONS

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)	0 (3.5)
3/8 circle round bodied needle									
 2xDR 13	 45				C3098887				
	 60 blue				C3097896				
	 75 blue				C3095687				
	 75 blue				C3097907				
 DR 13	 75 blue				C3097931				
3/8 circle round bodied needle									
 2xDR 13	 90 blue				C3095661				
	 90				C3097939				
	 45 blue			C3098886					
	 75 blue			C3095667					
  DR 13	 75 blue			C3097906					
 2xDR 13	 90			C3097938					
	 45		C3098885						
	 75 blue		C3097905						
 2xDR 13b	 75				C3097547				
	 60			C3097926					
	 75			C3097191					
	 90 blue			C3097839					
3/8 circle round bodied needle									
 2xDR 13s	 90 blue				C3095021				
	 2 x 90 blue				G3095009				
	  75 blue			C3097026					
3/8 circle round bodied needle									
  2xDR 15	 90 blue				C3090716	C3090717			

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)	0 (3.5)
3/8 circle round bodied needle									
 DR 18 	 75 blue							C3095057	
 2xDR 18 	 90 blue							C3095921	
 DR 18 	 75 blue						C3090120		
	 75						C3090720		
	 90						C3090920		
	 2 x 90 blue						G3090659		
  90 blue							C3095683		
 DR 18 	 75 blue					C3090119			
 2xDR 18 	 75					C3090719			
	 90 blue					C3090919			
 2xDR 18b 	 120 blue						C3095656		
 2xDR 22 	 75						C3090722	C3090723	
	 90 blue						C3090822		
 2xDR 26 	 75 blue							C3090725	
 DR 26 	 75 blue							C3090132	
3/8 circle round bodied needle									
 DR 32 	 75 blue							C3090083	

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## NEEDLE-THREAD COMBINATIONS

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)	0 (3.5)
<b>3/8 circle round bodied needle</b>									
<b>2xDR 6</b> 		60			C3098110				
		45	C3097880						
		60	C3097712						
		75	C3097980						
		blue							
<b>2xDR 6b</b> 		45	C3097857						
		60	C3097835						
		75	C3097834						
		blue							
<b>2xDR 8</b> 		75			C3097886				
		45	C3097685						
		60	C3097888						
		75	C3097885						
		blue							
		2 x 75			G3097080				
		blue							
		75	C3097004						
		blue							
<b>2xDR 8b</b> 		60			C3097819				
		75			C3097823				
		60	C3097817						
		75	C3097822						
		blue							
<b>2xDR 8f</b> 		60			C3097088				
		2 x 75			G3097130				
		blue							
		60	C3097105						
		blue							
<b>2xDR 8fb</b> 		60	C3097829						
		blue							
<b>1/2 circle round bodied needle</b>									
<b>2xHR 10</b> 		60				C3090866			
		75				C3090869			
		blue							
<b>1/2 circle round bodied needle</b>									
<b>HR 10</b> 		75			C3097402				
		blue							
<b>2xHR 10</b> 		75				C3097868			
		75			C3097867				
		blue							

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)	0 (3.5)
1/2 circle round bodied needle									
 2xHR 10f 	 60 blue				C3096015	C3096014			
1/2 circle round bodied needle									
HR 10f 	 75 blue				C3097861				
2xHR 10f 	 2 x 75 blue				G3097858				
1/2 circle round bodied needle									
 2xHR 13 	 90 blue						C3090750		
 HR 13 	 75 blue					C3090500			
 2xHR 13 	 75  45 blue					C3090954 C3090839			
 HR 13 	 75 blue				C3090499				
 2xHR 13 	 75  45 blue				C3090953 C3090853				
 2xHR 13b 	 75 blue				C3095448	C3095449			
 2xHR 13f 	 75 blue					C3095124			
 HR 13f 	 75 blue					C3095349			
 2xHR 13f 	 90 blue					C3095792			
 2xHR 13f 	 75 blue				C3097123				

# Optilene®

## NEEDLE-THREAD COMBINATIONS

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)	0 (3.5)	
1/2 circle round bodied needle										
2xHR 13ff 	 75 75 blue			C3097341	C3097346					
1/2 circle round bodied needle										
 HR 17 	 75 blue							C3090014		
 2xHR 17 	 90 blue							C3090903		
 HR 17 	 75 blue						C3090013			
 2xHR 17 	 75 90 blue						C3090503 C3090902			
	 90 blue						C3095327			
	 120 blue						C3090904			
 HR 17 	 75 blue					C3090012				
 2xHR 17 	 75 90 blue			C3090898	C3090501 C3090901					
	 90 blue						C3095492	C3095493	C3095494	
 2xHR 17b 	 90 blue									
 2xHR 17f 	 90 blue							C3096001		
	 2 x 90 blue						G3095521			
 2xHR 20 	 90 blue							C3090338		
 2xHR 22 	 90 blue								C3090978	

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)	0 (3.5)
1/2 circle round bodied needle									
 HR 22 	 75 blue							C3090030	
 2xHR 22 	 90  75 blue							C3090977 C3090860	
 HR 22 	 75 blue						C3090029		
 2xHR 22 	 75  90 blue						C3090863 C3090976		
	 90 blue						C3090979		
	 90 blue						C3095336		
	 120  90 blue					C3090975	C3090876		
	 75  90 blue						C3095512	C3095508 C3095513	
 2xHR 22f 	 75  90  75  90 blue						C3096009 C3096010	C3096011 C3096008	
Needle length mm	Thread length cm colour	USP (metric)							
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
 HR 26 	 75  120  75  blue					C3090042	C3090043 C3095712		
 2xHR 26 	 90 blue					C3090909			
 HR 26 	 120 blue					C3090444			

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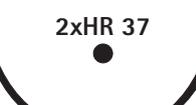
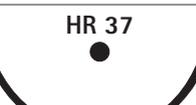
## NEEDLE-THREAD COMBINATIONS

Needle length mm	Thread length cm colour	USP (metric)							
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
1/2 circle round bodied needle									
  	120 blue				C3095710				
  	75 blue			C3090041					
	75 blue			C3090708					
    	90 blue 90 blue 120 blue			C3090838 C3090908 C3090709					
  	75 blue		C3090040						
  	75 blue		C3090707						
  	90 blue		C3090140						
	90 blue		C3090907						
	90 blue		C3090910						
     	90 blue 120 75 90 blue	C3090906 C3090905	C3095347 C3095709						
  	90 blue		C3095557	C3095558					

Needle length mm	Thread length cm colour	USP (metric)							
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
1/2 circle round bodied needle									
 	  	75 90 75 blue		C3095611 C3096004	C3096003 C3096017				
		90 blue		C3095606	C3095596				
	 	  	75 90 75 blue				C3095442	C3095443 C3095452 C3095458	
 		120 blue			C3090959				
 		75 blue			C3090015				
 	  	75 90 75 blue				C3090032	C3095444 C3090449		
 	  	75 120 75 blue				C3090144 C3090047	C3090048		
 		120 blue			C3090462				
 		75 blue			C3090046				
 		90 blue			C3090001				

# Optilene®

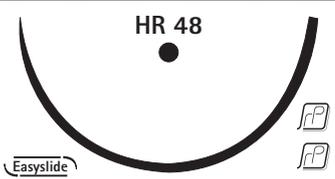
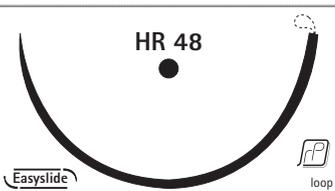
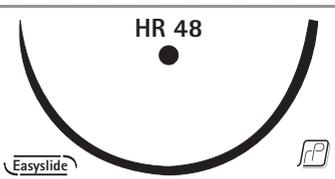
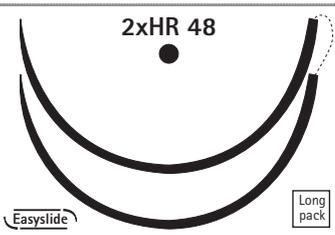
## NEEDLE-THREAD COMBINATIONS

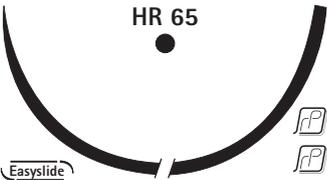
Needle length mm	Thread length cm colour	USP (metric)							
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
1/2 circle round bodied needle									
 HR 30s EasySlide	75 blue					C3090092			
 HR 30ss EasySlide	75 blue					C3090094			
 HR 37 EasySlide	75 blue					C3090052			
 2xHR 37 EasySlide	90 blue					C3095054			
 HR 37 EasySlide	75 blue						C3090053		
 2xHR 37 EasySlide	120 blue					C3090973			
 HR 37 EasySlide	75 blue					C3090051			
 2xHR 37 EasySlide	90 120 blue			C3090981		C3090943			

Needle length mm	Thread length cm colour	USP (metric)								
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)	
1/2 circle round bodied needle										
HR 37 	75 blue				C3090050					
2xHR 37 	90 blue				C3090942					
2 x 90 blue					G3095727					
HR 37s 	75 120 blue				C3090151 C3090154	C3090152	C3090153			
2xHR 37s 	120 blue				C3090971	C3090972				
HR 37s 	75 blue				C3090150					
HR 40 	100 blue					C3090099	C3090100			
HR 40s 	75 100 blue					C3090199	C3090300			
HR 40s 	150 blue						B3090331			

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## NEEDLE-THREAD COMBINATIONS

Needle length mm	Thread length cm colour	USP (metric)							
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
1/2 circle round bodied needle									
 <p>HR 40s</p> <p>EasySlide</p>	75 90 blue							C3090200	C3090478
 <p>HR 48</p> <p>EasySlide</p>	75 120 blue					C3095445		C3095146	
 <p>HR 48</p> <p>EasySlide</p> <p>loop</p>	150 blue							B3095081	
 <p>HR 48</p> <p>EasySlide</p>	75 blue							C3090170	
 <p>2xHR 48</p> <p>EasySlide</p> <p>Long pack</p>	120 blue				G3090932				
Needle length mm	Thread length cm colour	USP (metric)							
		9/0 (0.3)	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									
 <p>2xHR 6</p> <p>EasySlide</p>	45 45 blue			C3097803	G3097804				

Needle length mm	Thread length cm colour	USP (metric)																																																																																															
		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)																																																																																								
1/2 circle round bodied needle																																																																																																	
 HR 65 Easyslide	120							B3090485																																																																																									
	150								B3095585																																																																																								
	blue																																																																																																
5/8 circle round bodied needle																																																																																																	
 FR 26 Easyslide	75 blue						C3090066																																																																																										
	75 blue				C3095360																																																																																												
Straight round bodied needle																																																																																																	
 2xGR 19 Easyslide	30 blue		C3090776																																																																																														
 GR 19 Easyslide	45 blue	C3090466																																																																																															
 2xGR 65 Easyslide	75 blue				C3095350	C3095351																																																																																											
3/8 circle round bodied needle with short cutting point																																																																																																	
 2xDRC 10	90 blue	C3097930																																																																																															
<table border="1"> <thead> <tr> <th>Needle length mm</th> <th>Thread length cm colour</th> <th>8/0 (0.4)</th> <th>7/0 (0.5)</th> <th>6/0 (0.7)</th> <th>5/0 (1)</th> <th>4/0 (1.5)</th> <th>3/0 (2)</th> <th>2/0 (3)</th> <th>0 (3.5)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">   2xDRC 10           </td> <td>45</td> <td></td><td></td><td>C3097553</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>60 blue</td> <td></td><td></td><td>C3097543</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>   DRC 10           </td> <td>75 blue</td> <td></td><td></td><td>C3097539</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td rowspan="3">   2xDRC 10           </td> <td>75</td> <td></td><td></td><td>C3097546</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>45</td> <td></td><td>C3097548</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>60 blue</td> <td></td><td>C3097544</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td>75 blue</td> <td></td><td>C3095697</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>   DRC 10           </td> <td>75 blue</td> <td></td><td>C3097538</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>											Needle length mm	Thread 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)	0 (3.5)	 2xDRC 10	45			C3097553						60 blue			C3097543						 DRC 10	75 blue			C3097539						 2xDRC 10	75			C3097546						45		C3097548							60 blue		C3097544								75 blue		C3095697							 DRC 10	75 blue		C3097538						
Needle length mm	Thread 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)	0 (3.5)																																																																																								
 2xDRC 10	45			C3097553																																																																																													
	60 blue			C3097543																																																																																													
 DRC 10	75 blue			C3097539																																																																																													
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	75 blue		C3095697																																																																																														
 DRC 10	75 blue		C3097538																																																																																														

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## NEEDLE-THREAD COMBINATIONS

Needle	Thread	USP (metric)									
		length mm	length cm	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)	0 (3.5)
		mm	colour								
3/8 circle round bodied needle with short cutting point											
2xDRC 10 		75	blue		C3097545						
2xDRC 10b 		75	blue		C3097516						
2xDRC 10s 		75	blue		C3097324						
2xDRC 13 		75						C3096165			
		75	blue				C3095671				
		75	blue				C3097141				
DRC 13 		75	blue				C3097145				
2xDRC 13 		90	blue				C3097171				
		75	blue			C3095673					
DRC 13 		75	blue			C3097144					
2xDRC 13 		75				C3097175					
		90				C3097305					
		90	blue		C3098303						
2xDRC 13b 		75					C3097315				
		90					C3097311				
		75	blue			C3097836					
		90	blue			C3096013					
2xDRC 13s 		75	blue				C3095334				
2xDRC 15 		75					C3095756				
		90	blue				C3090728				
DRC 18 		75	blue					C3095166			

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)	0 (3.5)
3/8 circle round bodied needle with short cutting point										
	<b>2xDRC 18</b> 	 90 blue						C3090527		
	<b>DRC 18</b> 	 75 blue					C3095165			
	<b>2xDRC 18</b> 	 75  90 blue					C3095195 C3090526			
	<b>DRC 18</b> 	 30 blue <small>loop</small>					C3095456			
	<b>DRC 18</b> 	 75 blue				C3095164				
	<b>2xDRC 18</b> 	 90  75 blue				C3090525 C3095194				
	<b>2xDRC 18b</b> 	 90 blue					C3095439			
	<b>2xDRC 22</b> 	 90  120 blue					C3090535 C3095564	C3090536		
	<b>2xDRC 26</b> 	 120  90  120  75 blue					C3095633 C3095632 C3095634	C3095612		
	<b>DRC 26</b> 	 75 blue					C3095645			
	<b>2xDRC 26</b> 	 75  90 blue					C3095631 C3095630			
	<b>2xDRC 6</b> 	 45 blue		C3097219						

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## NEEDLE-THREAD COMBINATIONS

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)	0 (3.5)	
<b>3/8 circle round bodied needle</b>										
<b>2xDR 6</b> 	 75 blue		C3097286							
<b>3/8 circle round bodied needle with short cutting point</b>										
<b>2xDRC 6</b> 	 75  75 blue	C3097272	C3097288							
<b>2xDRC 8</b> 	 60  60  75  60  75 blue	C3097025 C3097169	C3097046 C3097176	C3097172						
<b>2xDRC 8b</b> 	 60 blue		C3097008							
<b>1/2 circle round bodied needle with short cutting point</b>										
<b>2xHRC 10</b> 	 2 x 60 blue		G3097793							
<b>2xHRC 13</b> 	 75  75 blue			C3097039	C3097303					
<b>2xHRC 17</b> 	 90 blue						C3090800	C3095052		
<b>HRC 17</b> 	 75 blue						C3090561	C3090579		
<b>2xHRC 17</b> 	 90 blue  2 x 90 blue						C3090571			
<b>HRC 17</b> 	 90 blue							C3095367		
<b>HRC 17</b> 	 75 blue								C3095638	
<b>HRC 17</b> 	 75 blue						C3090560			

C Box of 36 units	B Box of 24 units	G Box of 12 units	M Box of 6 units
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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)	0 (3.5)
1/2 circle round bodied needle with short cutting point										
		 	75				C3090695			
			90 blue				C3090570			
			90 blue				C3095580	C3095581		
			75 blue					C3090566	C3095572	
			90 blue					C3090580	C3090581	
			75 blue					C3090565		
			2 x 90 blue					G3095162		
			90 blue					C3095592		
Needle		Thread	USP (metric)							
length mm	length cm colour		5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)
			75 blue				C3090474	C3095796		
		  	90				C3095825			
			120				C3095140			
			90 blue				C3095614			
			75 blue			C3090473				



Needle length mm	Thread length cm colour	USP (metric)							
		7/0 (0.5)	6/0 (0.7)	5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)
Progressive curved round bodied needle with short cutting point									
2xPRC 10 	 2 x 75 blue	G3097053							
2xPRC 13 	 75 blue		C3097097						
2xPRC 13b 	 75 blue		C3097701						
Hook round bodied needle with short cutting point									
JRC 30s 	  100 blue							C3090963	
3/8 circle reverse cutting needle									
DS 12 	  45  75 blue		C3090206 C3095543	C3090207	C3090208	C3090205			
DS 16 	  45  75  45  75  45 blue		C3090211	C3090212 C3090512	C3090213 C3090513	C3090214 C3090514			
DS 19 	  45  75  30  45  75  30  45  75  45 blue		C3095400	C3090219 C3090519	C3090420 C3090220 C3090520	C3090421 C3090221 C3090521	C3090222 C3095522		

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## NEEDLE-THREAD COMBINATIONS

Needle length mm	Thread length cm colour	USP (metric)								
		7/0 (0.5)	6/0 (0.7)	5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	
3/8 circle reverse cutting needle										
DS 24 	75 blue								C3090237	
Needle length mm	Thread length cm colour	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	3 (6)	4 (6)	
DS 24 	75			C3090436		C3090238				
	45			C3090236						
	75		C3090435							
	45	C3090434	C3090235							
	75	C3090234								
	75 blue									
DS 30 	75			C3090447	C3090248	C3095200				
	45			C3090247						
	75		C3090446							
	45	C3090445	C3090246							
	75	C3090245								
	75 blue									
DS 35 	75 blue		C3090230							
DS 39 	75				C3090256	C3090257				
	90					C3095488				
	75			C3090249			C3090244			
	100			C3090255						
	75	C3090254								
	90 blue	C3090020								
2xDS 60 	75 blue			B3090751						
Needle length mm	Thread 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)	2 (5)	
DS 9 	45 blue	C3090204								

C Box of 36 units	B Box of 24 units	G Box of 12 units	M Box of 6 units
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Needle length mm	Thread length cm colour	USP (metric)							
		6/0 (0.7)	5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)
<b>1/2 circle reverse cutting needle</b>									
 HS 18 		45 blue		C3090264					
 HS 21 	 	45 75 blue				C3090261 C3090461			
 HS 26 	  	75 120 75 blue				C3090269	G3095959 C3090270	C3090271	
 HS 30 		75 blue				C3090274	C3090275		
 HS 37 		75 blue					C3090279		
 HS 40 		100 blue						C3095912	C3090272
<b>Straight reverse cutting needle</b>									
 GS 13 		45 blue		C3095385					
 GS 51 		75 blue					C3090285		
 GS 60 		75 blue				C3090265	C3090266		
<b>3/8 circle Trapezoidal micro engraved with precision point</b>									
DGMP 11 		45 blue	C3095588						
DGMP 13 		45 blue	C3095589	C3095518	C3095910				
DGMP 16 	 	75 45 blue		C3095549	C3095499	C3095999			

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## NEEDLE-THREAD COMBINATIONS

Needle length mm	Thread length cm colour	USP (metric)								
		6/0 (0.7)	5/0 (1)	4/0 (1.5)	3/0 (2)	2/0 (3)	0 (3.5)	1 (4)	2 (5)	
3/8 circle Trapezoidal micro engraved with precision point										
 <b>DGMP 19</b>		45				C3095591				
		75				C3095983				
		45				C3095500				
		75				C3095517				
		45		C3095550						
 <b>DGMP 24</b>		45				C3095706				
		75				C3095708				
		45				C3095717				
		75				C3095718				
		blue								
3/8 circle reverse cutting needle with precision point										
 <b>DSMP 7</b>		45 blue	C3095613							
 <b>DSMP 11</b>		45	C3090606	C3090607	C3090608					
		75 blue	C3090406							
 <b>DSMP 13</b>		45				C3090620	C3090077			
		75				C3090409	C3090410			
		45 blue				C3090619				
 <b>DSMP 19</b>		75 blue			C3090672					
 <b>DSMP 13</b>		45 blue	C3090617	C3090618						
 <b>DSMP 16</b>		45				C3090630	C3090481			
		75				C3090427				
		45				C3090629				
		75				C3090429				
		45 75 blue		C3090628 C3090428						

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)	0 (3.5)	1 (4)	
3/8 circle reverse cutting needle with precision point												
 DSMP 19 		45										
		75										
		45										
		75										
		45										
		blue				C3090675	C3090676 C3090673	C3090677 C3090674	C3090678			
 DSMP 24 		45										
		75										
		45										
		75										
		45										
		blue				C3095654	C3090655 C3090680	C3090656 C3090681	C3090657 C3090682			
 DSMP 30 		45										
		75										
		blue							C3090691	C3090667 C3090692		
Needle		Thread		USP (metric)								
angle	length mm	diameter microns	length cm	colour	11/0 (0.1)	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 needle micro needle												
135°	 DRm 5	100µ	15									
			23									
			blue									
135°	 2xDRm 5	100µ	45									
			blue									
135°	 DRm 6	140µ	45									
			blue									
135°	 2xDRm 6	140µ	60									
			blue									
135°	 DRm 6	140µ	12									
			blue									
135°	 DRm 8	140µ	15									
			45									
			blue									
135°	 2xDRm 8	140µ	60									
			blue									

# Optilene®

## NEEDLE-THREAD COMBINATIONS

angle	Needle		Thread	USP (metric)								
	length mm	diameter microns		length cm	11/0 (0.1)	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 needle micro needle												
135°	DRm 10b	 200µ	75 blue							G3090785		
135°	2xDRm 10b	 200µ	45 blue					G3090610				
135°	DRm 10b	 200µ	75 blue					G3090784				
1/2 circle round bodied needle micro needle												
180°	2xHRm 6	 200µ	45 blue					G3090742				
180°	HRm 6	 200µ	30 blue					G3090740				
3/8 circle round bodied needle with taper point (vascular)												
	2xDRmV 8b	 140µ	60 75 blue				G3095050 G3095060					
	2xDRmV 10b	 200µ	75 blue						G3095139			
3/8 circle round bodied needle micro needle												
	2xDRm 10b	 200µ	45 blue						G3095149			
3/8 circle round bodied needle with short cutting point (mic)												
135°	2xDRCm 10b	 200µ	75 blue							G3090693		
135°	DRCm 10b	 200µ	75 blue							G3090768		
135°	2xDRCm 10b	 200µ	45 75 blue					G3090832 G3090694				
Progressive curved round bodied needle with short cutting point (mic)												
95° 90°	PRCm 10b	 200µ	75 blue						G3095765			

Needle		Thread	USP (metric)							
length mm	diameter microns	length cm colour	11/0 (0.1)	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)
Progressive curved round bodied needle with short cutting point (vas)										
	<b>2xPRCmV 10b</b>	 75 blue						G3090669	G3090668	
		 200μ								
3/8 circle lancet micro needle										
140°	<b>2xDLm 5</b>	 150μ blue		G3090589						
140°	<b>DLm 6</b>	 150μ blue		G3090590						
140°	<b>2xDLm 6</b>	 150μ blue		G3090591						
137°	<b>2xDLm 6s</b>	 200μ blue		G3090596						
137°	<b>DLm 6s</b>	 200μ blue			G3090594	G3090595				
137°	<b>2xDLm 6s</b>	 200μ blue			G3090846 G3090597					
1/2 circle lancet micro needle										
160°	<b>2xHLm 6</b>	 150μ blue		G3090775						
Straight lancet micro needle										
	<b>2xGLm 16</b>	 150μ blue		G3095480	G3095481					
1/8 circle lancet micro needle										
44°	<b>SLm 6</b>	 150μ blue		G3090777	G3090778					

# AESFULAP<sup>®</sup> – a B. Braun brand

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## Manufacturer

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