



# SCHMETZ embroidery needles

SCHMETZ DBxK5 / 287 WK H / DBx1 / 134 / 253 / CEx3 / PHx1

These days, over 90% of single and multi-head embroidery machines use the DBxK5 needle system. A wide range of versions with specific properties have been created as a result of the wide variety of applications, substrates, embroidery techniques and the use of additional materials in embroidered designs, such as sequins, cords and ribbons. SCHMETZ offers a wide range of needle shapes and special coatings that are ideally suited to the respective machines and applications.



**SCHMETZ**

## Needles for single and multi-head embroidery machines

The properties of the SCHMETZ DBxK5 enable to create the best possible embroidered designs and protect the components involved in the embroidery process.



### Blade reinforcement

- Precise penetration for accurate embroidery contours
- Low deflection of the needle, even in very dense embroidery designs
- Less needle breakage

### Optimized hump scarf

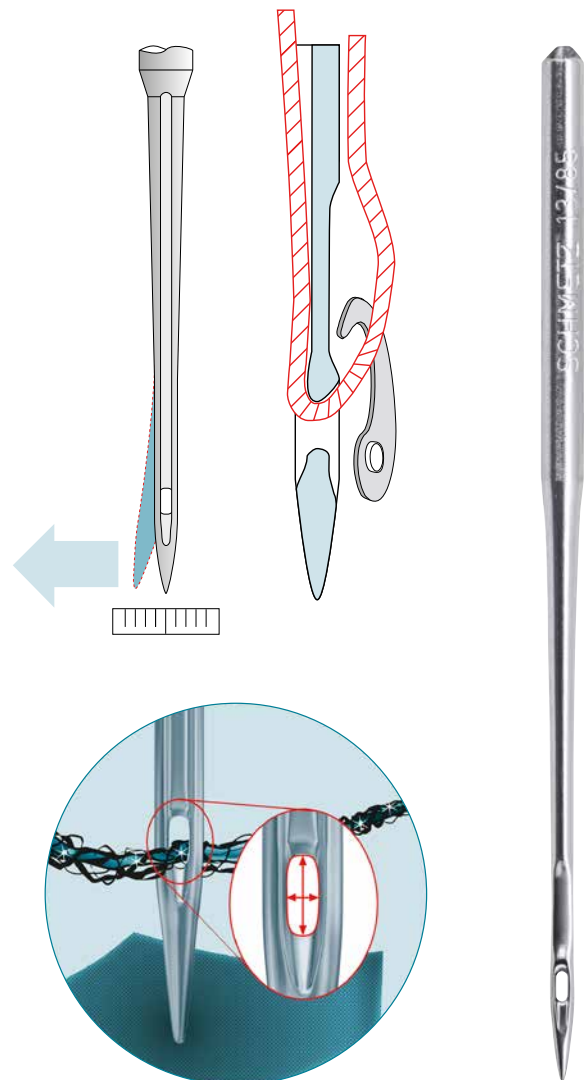
- Ideal distance between the scarf and yarn due to the formation of larger loops
- Avoidance of skipped stitches

### Special embroidery eye

- Extra-large eye, 2 NM larger in relation to the needle size, for effortless, gentle sliding of embroidery and sewing threads without any tearing

### Chemical polish on the eye and groove

- Completely smooth and burr-free needle surface
- Thread glides easily through the eye with less thread breakage, even with special and effect embroidery threads



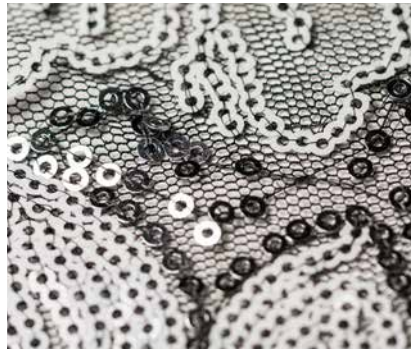
## Special versions of the SCHMETZ DBxK5

### DBxK5 with short shank KK

Needles with a short shank are used when the needle needs a larger working range, i.e. a longer needle blade.

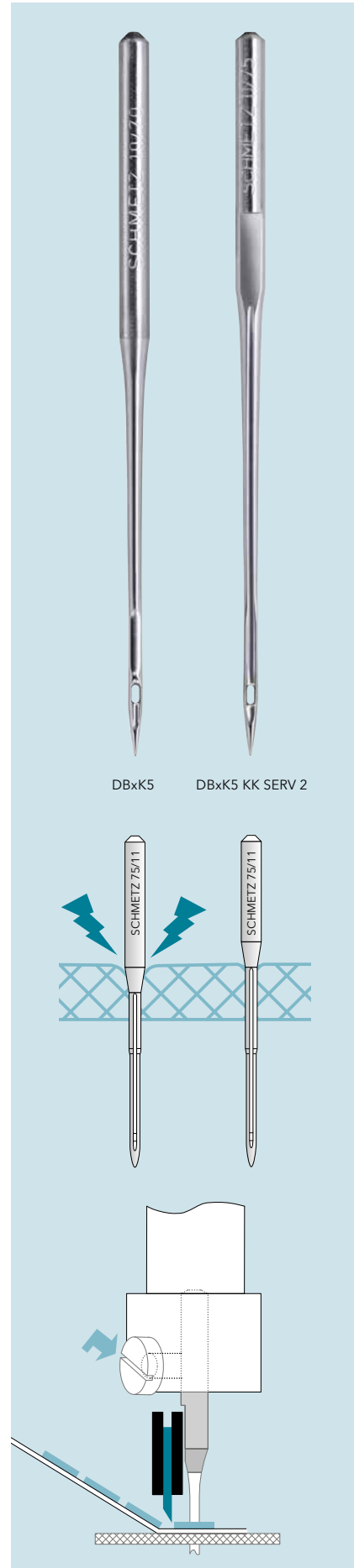
This is the case when embroidering raised material layers, e.g. in 3D embroidery designs, or when embroidering elements such as sequins or cords.

A shank in a regular length could either plunge into the work and make the stitch hole wider or embroidered elements could jam at the reinforced shank base and be lifted off the design as the needle moves upwards.



### Special version DBxK5 KK SERV 2

When working with particularly small sequins, the cutter needs to be set very close to the needle. The shoulder on the SERV 2 version is flattened so that there is enough clearance for the cutter's blade. This prevents unnecessary wear and tear on machine parts. The top of the shank remains round, so that the needle can still be fixed in the needle bar regardless of the machine manufacturer and model.

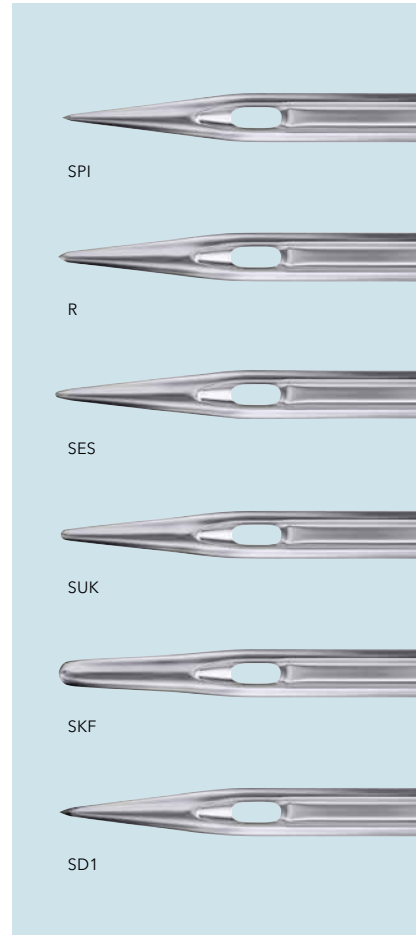


## Choosing the right needle

In order to achieve the best possible embroidery results, needle features such as the point shape, needle size and coating must be tailored to the respective application.

### Point shapes for different materials

Material	Needle size		Point shape	
	NM	SIZE		
Knitted fabric Jersey	65-90	9-14	SUK	Medium ball point
Fine knitwear	65-80	9-12	SES	Light ball point
Woven fabric	65-100	9-16	SUK	Medium ball point
Jeans	80-100	12-16	SUK	Medium ball point
Terry cloth	70-100	10-16	SUK	Medium ball point
Densely woven materials (microfiber)	65-80	9-12	R	Normal round point
Silk	65-80	9-12	SPI	Acute round point
Coated, reinforced materials	65-80	9-12	SUK	Medium ball point
Coated materials/ synthetic leather	70-90	10-14	R	Normal round point
			SD1	Round point with small triangular tip
Fine leather	70-90	10-14	R	Normal round point
			SD1	Round point with small triangular tip



## Special coatings for special applications



NIT

TN

Embroidery needles have a chrome coating as standard. This offers protection against corrosion and wear during normal embroidery work. However, some applications place greater demands on the needle, calling for special coatings:

### **SCHMETZ NIT: Anti-adhesive coating with excellent sliding properties**

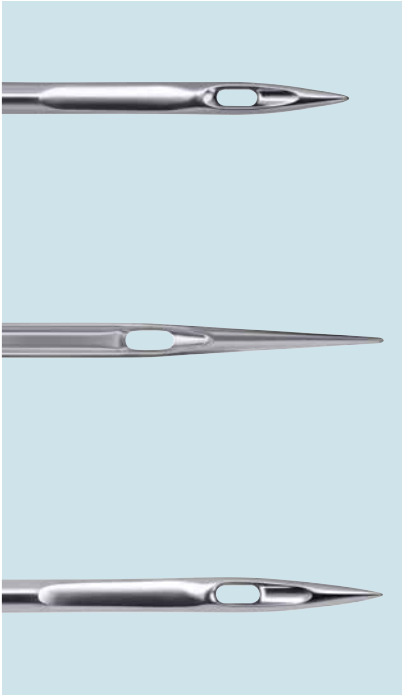
During the embroidery process, friction occurs when the needle penetrates the widest range of substrates, which causes high temperatures to develop. Temperature-sensitive materials can melt and their residues can seal the eye of the needle or form burrs on the needle surface, which can cause skipped stitches and thread tears, interrupting the embroidery process.

The anti-adhesive coating helps to prevent adhesion or deposits on the needle and – thanks to its good sliding properties – enables the embroidered material to be penetrated gently and allows for easy thread guidance.

### **SCHMETZ TN: Hard wear-resistant coating for a long service life**

Abrasive materials lead to wear on the needle surface during the embroidery process, causing damage to the material and thread as a result. The hard coating counteracts this and thus increases productivity.

## Other needle systems for single and multi-head embroidery machines



### **SCHMETZ 287 WK H: Needle with a short point**

Needles with very short points are sometimes needed to deal with high curvatures, for example in 3D embroidery designs. They are also popular for compensating for the spring effect of the needle bar when changing colors.

### **SCHMETZ DBx1 KN: Slim needle for delicate embroidery**

This needle's slim, fully cylindrical needle blade and equally slim point profile are particularly suitable for delicate embroidery. Fine embroidery substrates are guided smoothly thanks to gentle penetration by the needle, which enables very precise stitches to be created.

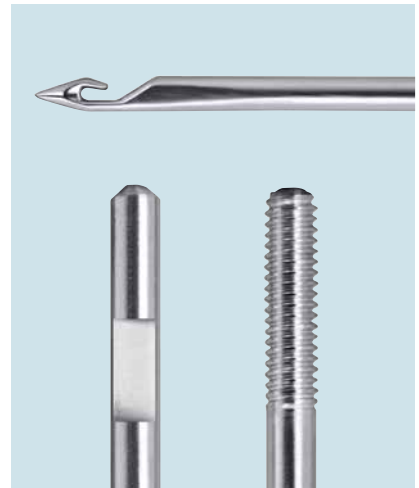
### **SCHMETZ 134 GO RRT: For special embroidery machines**

SCHMETZ offers a variant with an approximately 25% larger needle eye for embroidery machines that use the needle system 134. Gentle thread guidance prevents thread tearing and the problems associated with it. The slightly rounded point enables it to be used in a wide range of materials.

## Hook needles for automatic embroidery machines, hand crank embroidery machines

Hook needles are used in various areas of embroidery as well as in specialist areas. They differ in terms of their hook shape and in how they are installed and fixed in the needle bars of embroidery machines.

While the 253 (C/S/C/M) and PHx1 needle systems have a threaded shank to screw the needles into the needle bar, the CEx3 system has a notched shank to position the needle and secure it in place.



Examples of applications are:



Moss embroidery



Hand crank embroidery



Sewing hair onto dolls' heads

**Selection of needle size:**

The embroidery technique and the embroidery thread determine the needle size.

Two essential criteria must be taken into account:

**1. Embroidery thread and motif**

The thickness of the embroidery thread and the embroidery motif determine the needle size.

**2. Material and material quality**

The harder and thicker the material is, the thicker must be the needle.

**SCHMETZ tip:**

The tables only consider the most common embroidery threads.

If you have specific questions about these embroidery threads, please contact your thread manufacturer.

\* No = label number

tex = thread count  
in g/1000 m (e.g. 17 tex = 1000 m of yarn weigh 17 g)

**Continuous filament**

Yarn type	Polyester				Viscose			
	Yarn count		Needle size		Yarn count		Needle size	
	No*	tex*	NM	SIZE	No*	tex*	NM	SIZE
	40	30	70-80	10-12	60	20	65	9
	40	30	65-80	9-12	30	40	80-90	12-14
	30	40	80-90	12-14	12	100	90-100	14-16

**Continuous filament**

Yarn type	Metallic			
	Yarn count		Needle size	
	No*	tex*	NM	SIZE
	50	23	65-80	9-12
	40	30	75-90	11-14
	30	40	80-90	12-14
	20	60	80-90	12-14
	15	80	80-100	12-16

**Core spun**

Yarn type	Cotton				Wool/Acrylic			
	Yarn count		Needle size		Yarn count		Needle size	
	No*	tex*	NM	SIZE	No*	tex*	NM	SIZE
	30	40	80-90	12-14	12	70	80-100	12-16
	50	23	65-80	9-12				

**For further information on embroidery needles, please contact:**

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