

# Comb System for any Cotton Yarn Application

FIXPRO Graf Type C30

Graf PRIMACOMB

Highest fiber yield as short fibers are removed at consistently high productivity

# Differentiation Thanks to the Market Leader's Expertise

**Graf offers a complete solution package for combing that ensures a maximum fiber yield. The package includes circular combs, top combs, top comb holders, and circular comb brushes, as well as accessories such as various cleaning devices. By combining these elements into a system, spinning mills can produce combed yarns according to their cotton characteristics, machine types, and yarn quality target.**

Spinning mills can rely on highly effective combs to remove short fibers and neps while keeping the long fibers in the process. This results in lower conversion costs for the produced yarn. The particularly long lifetime also increases the overall efficiency of the spinning mill.

A comprehensive product range consisting of technology components for combing and carding combined with a network of technical consultants and service engineers enable Graf business partners to set themselves apart on the market and enjoy economic success.

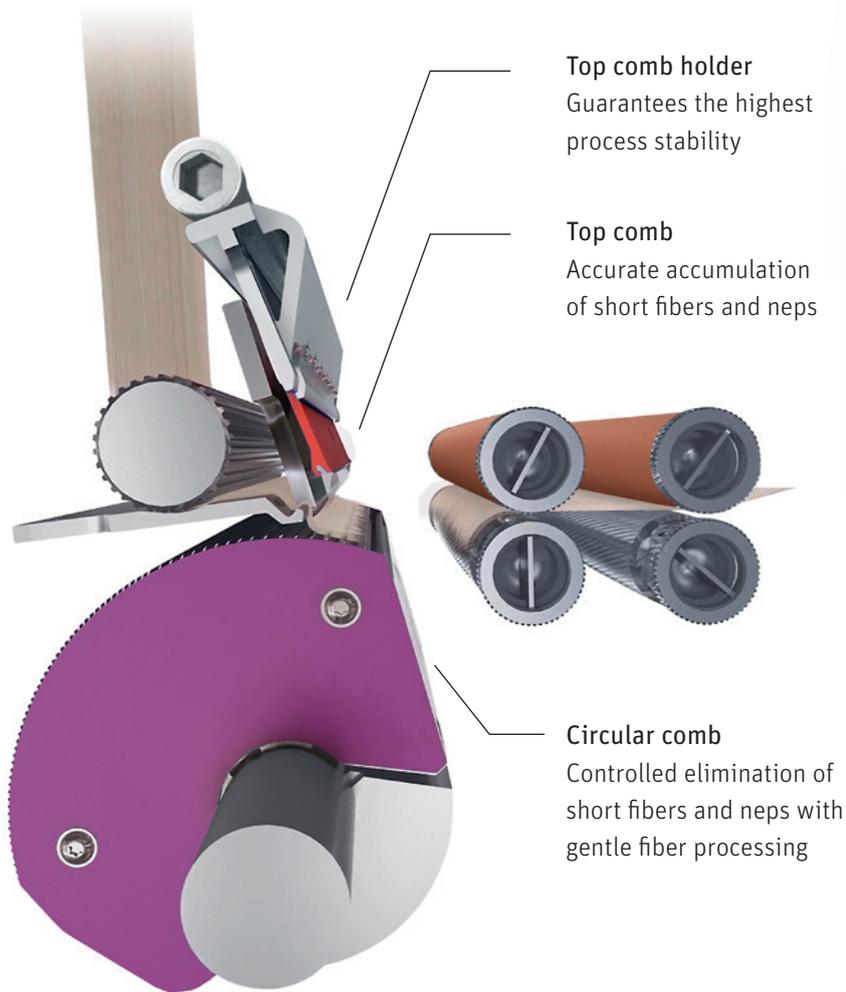


## Benefits of the Graf comb system solution

- One-stop solution package consisting of all relevant technology components to produce combed cotton yarn most economically
- Increased yield of up to 0.5% leading to increased margin thanks to precise settings on the top comb and height adjustability of the circular comb
- Consistent yarn quality with 20% fewer imperfections
- Minimum 20% longer lifetime for top combs and circular combs thanks to extra wear-resistant alloy on the combs clothing
- Smooth operation of combers throughout the entire lifetime of the comb system thanks to high process stability driven by the uniquely low soiling of the combs
- Almost zero running-in time thanks to rounded edges provided by the unique Needle Finish surface treatment

## No Limits in Processing Fibers

# Comb System



## Cleaning accessory

### Circular comb brush

Ensures a clean circular comb and therefore reliable combing performance



### Cleaning device

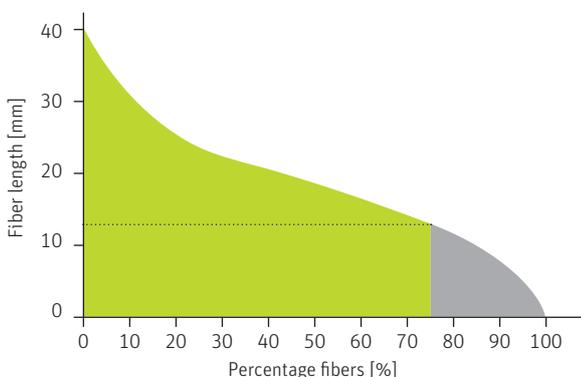
Removes dirt particles and seed coat fragments from the top comb and circular comb

# Combing Know-How at a Glance

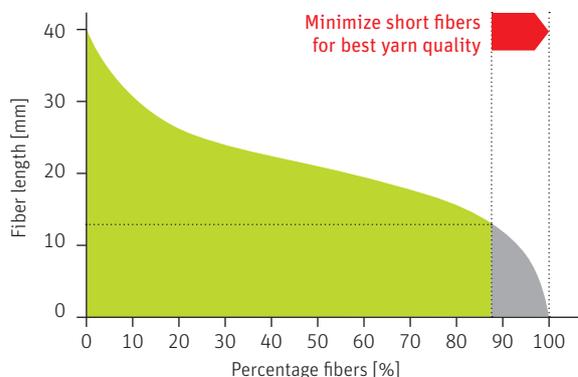
**By investing in a combing department, a spinning mill can serve a market segment for finer yarn count ranges. To be able to do this successfully and achieve the desired higher price, corresponding quality must be produced.**

To achieve maximum raw-material utilization, it is essential that only the shortest fibers are eliminated, while the “good fibers” must be retained in the process.

Comber lap



Comber sliver

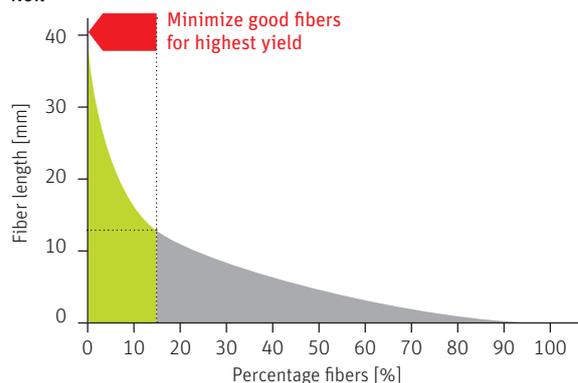


**Exemplary use case**

- Short fiber content in comber lap: 25%
- Definition short fibers: fiber length < 12.5 mm
- Noil extraction: 18%

■ Good fibers     ■ Short fibers

Noil



**Perfectly aligned settings across all combing positions ensures best yarn quality and highest yield:**

- Top combs accurately prevent short fibers from passing through and ensure that the short fibers are presented to the circular comb
- Circular combs gently remove the unwanted short fibers and remaining neps without damaging the longer fibers
- A perfect parallel alignment between the circular combs and the nippers guarantees the required level of precision for the process

# Comb Product Portfolio for any Spinning Mill Requirement

Choose the right combination of circular comb and top comb as per your required yarn specification, the cotton quality used, and the comber model.

Your yarn			Your comber					
			Combers from any manufacturer and Rieter combers before E 80			Rieter combers E 80, E 86, E 90		
Yarn count	Staple length	Noil extraction	Circular comb		Top comb	Circular comb		Top comb
			Combers with 90°	Combers with 111°		Rieter E 80, E 86 with 130°	Rieter E 90 with 130°	
< Ne 24	< 30 mm	10 – 14%	PRIMACOMB 8014	PRIMACOMB 5015	FIXPRO C26	Ri-Q-Comb i400 flex	Ri-Q-Comb i505 flex-d40	Ri-Q-Top 2026
		15 – 18%						Ri-Q-Top 2030
Ne 24 – 50	30 – 34 mm	15 – 18%	PRIMACOMB 9015	PRIMACOMB 5030	FIXPRO C30	Ri-Q-Comb i500 flex	Ri-Q-Comb i705 flex-d40	Ri-Q-Top 2035
		19 – 22%						
> Ne 50	> 34 mm	15 – 22%	PRIMACOMB 9030	PRIMACOMB 5030	FIXPRO C35	Ri-Q-Comb i700 flex	Ri-Q-Comb i705 flex-d40	Ri-Q-Top 2035



# PRIMACOMB Circular Combs for all Machine Manufacturers

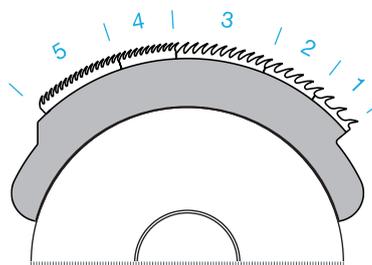
The uniquely proven PRIMACOMB circular combs offer maximum production reliability, combing efficiency, and consistently high yarn quality in the long term. PRIMACOMB fits a wide range of combers and easily handles any application.

The PRIMACOMB has a robust design, perfectly optimized for eliminating short fibers and remaining neps, plus it is easy to install and maintain. These are the key features allowing this comb to provide a combing surface of 90° and 111°.

PRIMACOMB circular combs are well known as the most economical solution for combers running all nip rates from low to high.



PRIMACOMB 9015



Example cross section

## Benefits of PRIMACOMB circular combs

- Significantly reduced yarn manufacturing costs thanks to up to 0.5% higher fiber yield
- Consistently high production rates and yarn quality parameters thanks to minimal soiling on the teeth of the circular comb
- Perfectly adapted to the application thanks to specially designed tooth geometry that ensures up to 20% fewer yarn imperfections
- Minimal investment costs thanks to up to 20% longer lifetime provided by the extra wear-resistant CUTTYSHARP alloy
- High production reliability despite high dynamic forces thanks to the low weight and robust manufacturing of the comb

### Combers from any machine manufacturer\*

Machine specifications: 300 – 500 nips/min; combers with a shaft diameter of 85 mm or an adapter from comb (diameter 85 mm) to shaft is required.

Your product		Your circular comb					
Yarn count [Ne]	Staple length [mm]	Noil extraction [%]	Combing surface [°]	Number of teeth	Sections	Count plate color	Type of circular comb
< Ne 24	< 30	10 – 14	90	22 580	4	anthracite	PRIMACOMB 8014
		15 – 22	90	22 580	4	anthracite	PRIMACOMB 8014
Ne 24 – 50	30 – 34	15 – 18	90	22 580	4	anthracite	PRIMACOMB 8014
		19 – 22	90	28 270	5	turquoise	PRIMACOMB 9015
		15 – 22	111	28 470	5	natural	PRIMACOMB 5015
> Ne 50	> 34	15 – 22	90	31 550	6	black	PRIMACOMB 9030
		15 – 22	111	41 680	6	natural	PRIMACOMB 5030

\*Combers from Henan Haochang, Jiangsu Kaigong, Jinzhong Jingwei, Lakshmi, Marzoli, Rieter (before E80), Trützschler

# FIXPRO Top Combs for all Machine Manufacturers

**High productivity and maximum production safety is fundamentally defined by the top comb. The FIXPRO series ensures minimum soiling while providing maximum robustness, especially if the comb is running at medium to high performance levels.**

The space between the teeth, which is aligned to the fiber fineness, and the unique Needle Finish surface treatment come together to provide the best solution for any possible application.

## Benefits of FIXPRO top combs

- The smoothest surface and no wrapped fibers for minimal soiling and uniquely safe production
- Wide tooth profile paired with free vertical space between the teeth prevent short fibers from passing through
- Longest on the market available and up to 20% extended replacement cycle thanks to CUTTYSHARP alloy
- Almost zero running-in time thanks to rounded edges provided by the unique Needle Finish surface treatment
- Special assembly design of the teeth ensures unique robustness and therefore maximum machine safety



FIXPRO C26



Assembly concept and design of process zone

Your product			Your top comb			
Yarn count [Ne]	Staple length [mm]	Batt weight [g/m]	Number of teeth [1/cm]	Free space between teeth [mm]	Color	Type of circular comb
< Ne 24	< 30	60 – 80	26	0.195	orange	FIXPRO C26
Ne 24 – 50	30 – 34	60 – 78	30	0.165	turquoise	FIXPRO C30
> Ne 50	> 34	60 – 78	35	0.125	light yellow	FIXPRO C35

## Lifetime expectation

Graf combs do not just provide extraordinary performance, they also have an extended lifetime. Both of these features are particularly beneficial to spinning mills.

Category	Short-/medium staple ≤ 34 mm	Long-/extra long staple > 34 mm
Circular comb	> 1 500 tons	> 1 000 tons
Top comb	> 750 tons	> 500 tons

# Ri-Q-Comb Circular Combs for the Latest Rieter Combers

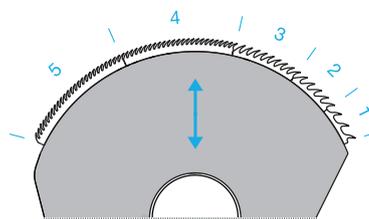
**Perfect parallel alignment between the circular comb and the nipper results in maximized yield. That is the secret of the Ri-Q-Comb circular combs. They are designed for high-performance combers that perfectly process fibers in any application.**

All the benefits from PRIMACOMB paired with the uniquely ergonomic and robust height adjustment system empowers the Ri-Q-Comb series to be the margin optimizer. Savings in raw material are always the biggest lever to reduce the overall costs of a spinning mill.

The combing surface of 130° provide a reasonable long processing time for each fiber especially for comber units running at high nip rates.



Ri-Q-Comb i505 flex-d40



Example cross section

## Benefits of Ri-Q-Comb flex

- Significantly reduced yarn manufacturing costs thanks to up to 0.5% higher fiber yield
- Consistently high production rates and yarn quality parameters thanks to minimal soiling on the teeth of the circular comb
- Perfectly adapted to the application thanks to specially designed tooth geometry that ensures up to 20% fewer yarn imperfections
- Minimal investment costs thanks to up to 20% longer lifetime provided by the extra wear-resistant CUTTYSHARP alloy
- High production reliability despite high dynamic forces thanks to the low weight and robust manufacturing of the comb

### Circular combs for Rieter E 80 and E 86 combers

Machine specifications: max. 550 nips/min; comber shaft 30 mm

Your product			Your circular comb					
Yarn count [Ne]	Staple length [mm]	Noil extraction [%]	Combing surface [°]	Number of teeth	Sections	Height adjustment	Count plate color	Type of circular comb
< Ne 24	< 30	10 – 18	130	41 833	5	disc	blue	Ri-Q-Comb i400 flex
Ne 24 – 50	30 – 34	15 – 22		41 833	5		violet	Ri-Q-Comb i500 flex
Ne 50	> 34	15 – 22		44 776	6		brown	Ri-Q-Comb i700 flex

### Circular combs for Rieter E 90 combers

Machine specifications: max. 600 nips/min; comber shaft 40 mm

Your product			Your circular comb					
Yarn count [Ne]	Staple length [mm]	Noil extraction [%]	Combing surface [°]	Number of teeth	Sections	Height adjustment	Count plate color	Type of circular comb
< Ne 50	< 34	10 – 22	130	44 622	5	disc	violet	Ri-Q-Comb i505 flex-d40
> Ne 50	> 34	15 – 22		47 761	6		brown	Ri-Q-Comb i705 flex-d40

# Ri-Q-Top Top Combs for the Latest Rieter Combers

**High productivities and maximal production safety is fundamentally defined by the top comb. The Ri-Q-Top series provides minimal soiling paired with maximal robustness especially for units running on high to very high performance levels.**

The space between the teeth, which is aligned to the fiber fineness, and the unique Needle Finish surface treatment come together to provide the best solution for any possible application.

## Benefits of Ri-Q-Top top combs

- The smoothest surface and no wrapped fibers for minimal soiling and uniquely safe production
- Wide tooth profile paired with free vertical space between the teeth prevent short fibers from passing through
- Longest on the market available and up to 20% extended replacement cycle thanks to CUTTYSHARP alloy
- Almost zero running-in time thanks to rounded edges provided by the unique Needle Finish surface treatment
- Special assembly design of the teeth ensures unique robustness and therefore maximum machine safety



Ri-Q-Top 2026



Assembly concept and design of process zone

Your product			Your top comb			
Yarn count [Ne]	Staple length [mm]	Batt weight [g/m]	Number of teeth [1/cm]	Free space between teeth [mm]	Color	Type of circular comb
< Ne 24	< 30	60 – 80	26	0.195	red	Ri-Q-Top 2026
Ne 24 – 50	30 – 34	60 – 78	30	0.165	blue	Ri-Q-Top 2030
> Ne 50	> 34	60 – 78	35	0.125	brown	Ri-Q-Top 2035

## Lifetime expectation

Graf combs do not just provide extraordinary performance, they also have an extended lifetime. Both of these features are particularly beneficial to spinning mills.

Category	Short-/medium staple ≤ 34 mm	Long-/extra long staple > 34 mm
Circular comb	> 1 500 tons	> 1 000 tons
Top comb	> 750 tons	> 500 tons

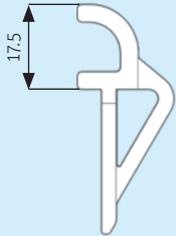
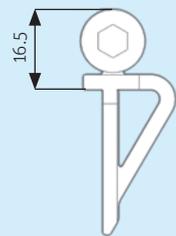
# Components to Complete the Comb System

Utilize Graf combs to their maximum potential by installing best in class machine components and complimentary cleaning equipment.

## Top comb holder

The special design and material composition of the top comb holder ensures vibration-free operation of the top comb and guarantees maximum process stability.

There are two top comb holders available to choose from the clips' design on the combing machine.

Comber with clip height 17.5 mm	Comber with clip height 16.5 mm
Top comb holder type A 	Top comb holder type B 



## Circular comb cleaning brush

The circular comb cleaning brush continuously cleans the circular comb in order to achieve a consistent combing result throughout the entire operation.



## Top comb cleaning device

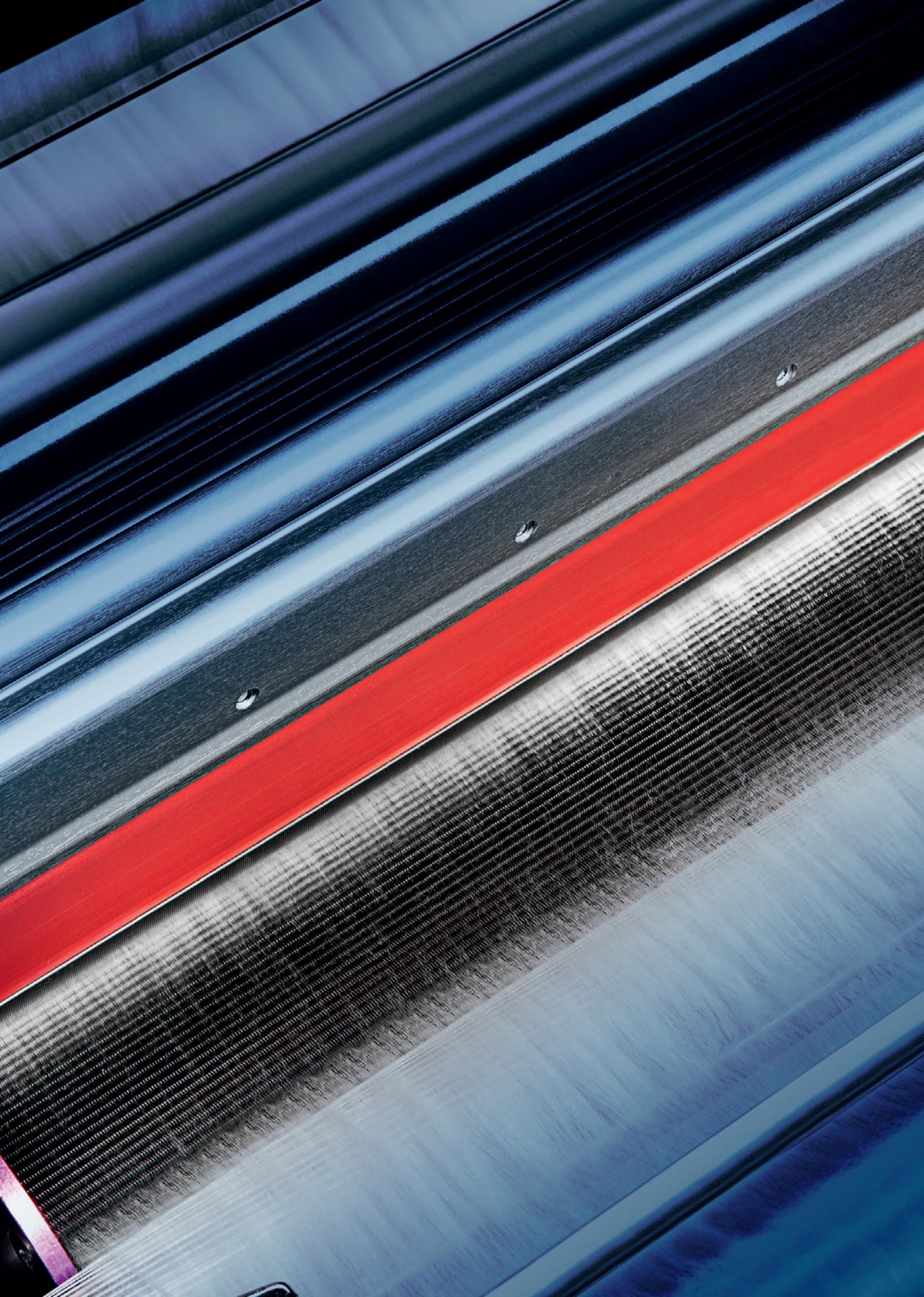
The top comb cleaning device is designed for a quick and safe cleaning of residuals between the teeth of the top combs.

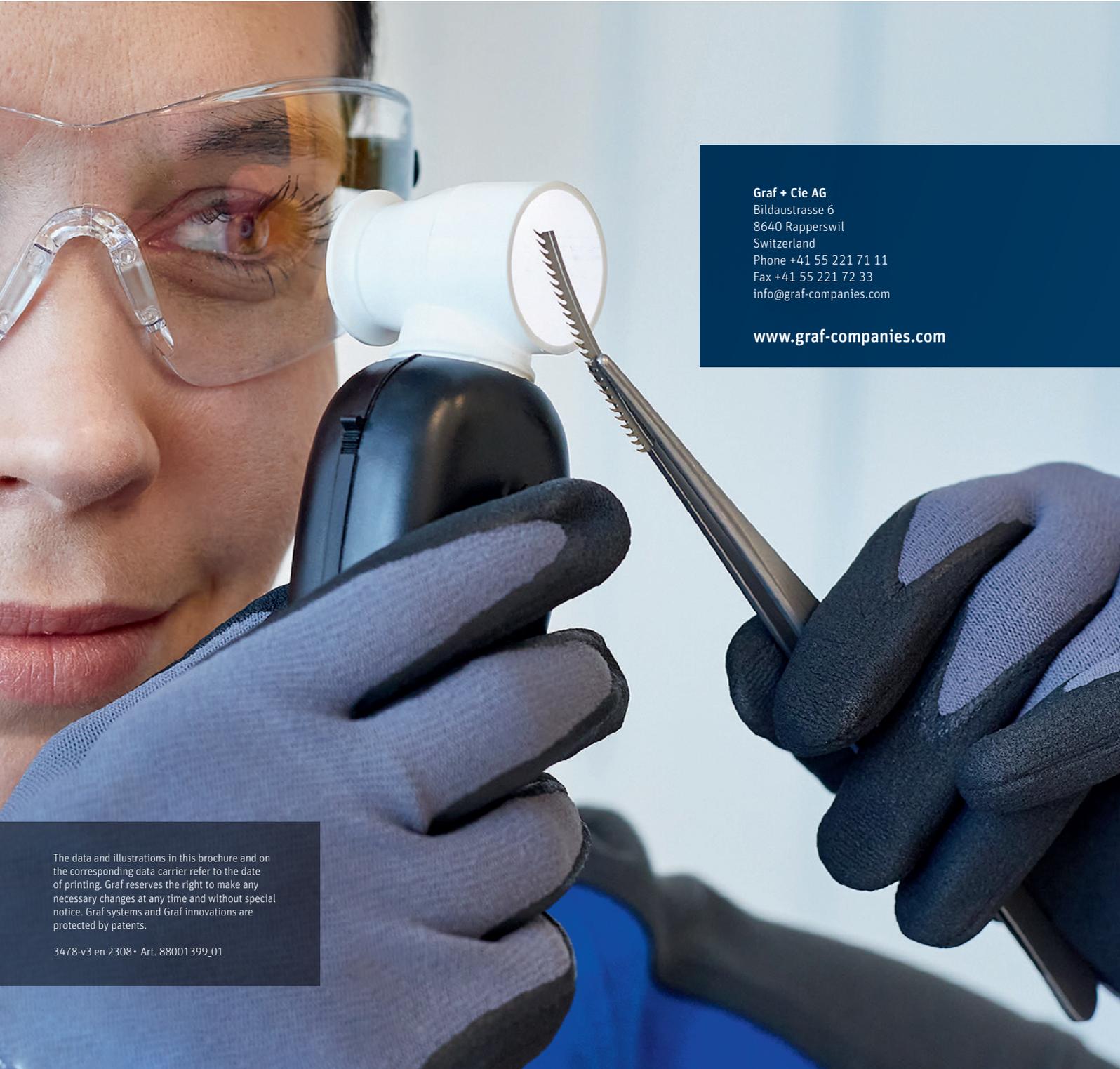


## Circular comb cleaning device

The cleaning device for circular combs ensures an easy and safe removal of seed coat fragments and other trash particles which cannot be removed by the circular comb brush.







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