

Energy and Cost Savings with Habasit Power Transmission Belts and Tapes



With energy costs increasing continuously, Habasit has the right solutions for energy and cost savings across the entire range of textile machinery.

Our belts and tapes offer:

- **High efficiency**
- **High machine performance**
- **Low energy consumption**
- **Low costs**

**4%–8%
energy
and cost
savings**



Energy savings with Habasit TC **tangential belts** compared with competitors' polyamide belts

Your savings

Compare the energy cost-saving potential of Habasit polyester TC and TF tangential belts with competitors' polyamide tangential belts:

→ Average energy-saving potential in percentage of power to be transmitted	4% – 6%
→ Average energy cost-saving potential per spindle / year	~ USD 1
→ Average energy cost-saving potential per year in a spinning mill with around 200,000 spindles	~ USD 200,000

Energy consumption comparisons – showing savings

Examples from India

Energy consumption comparison between competitor polyamide tangential belts and Habasit polyester TC tangential belts, made on Leewha TFO two-for-one twisters at the Rajasthan Spinning & Weaving Mills Ltd. in India:

	Example 1		Example 2	
	Competitor polyamide belt	Habasit TC-35ER belt	Competitor polyamide belt	Habasit TC-35/30ER belt
Spindle speed	9,100 rpm		10,100 rpm	
Consumed energy	24.32 kWh	22.82 kWh	23.3 kWh	22.3 kWh
Energy savings with Habasit TC belts		6.2%		4.3%

Examples from China

Energy consumption comparison between competitor polyamide tangential belts and Habasit polyester TC tangential belts, made on Zhejiang Weifeng WF-168 covering machines (840 spindles) in China:

	Example 1		Example 2	
	Yiwu Hangfei Covering Yarn Co. Ltd.		Shantou Covering Yarn Factory	
Energy savings per machine and day	24 kWh		21 kWh	
Average working days per year	300		360	
Energy costs per kWh	CNY 0.7	USD 0.11	CNY 0.7	USD 0.11
Energy cost-savings per machine and year	CNY 5,040	USD 792	CNY 5,292	USD 832
Number of machines installed	275		250	
Number of spindles per machine	840		840	
Total energy savings per year	CNY 1,386,000	USD 217,800	CNY 1,323,000	USD 207,900
Energy savings per year and spindle	CNY 6.00	USD 0.94	CNY 6.3	USD 0.99

Outstanding benefits of the TC and TF **tangential belts**

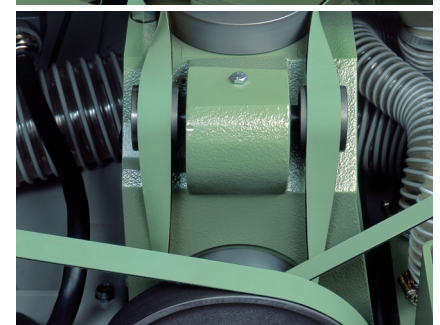
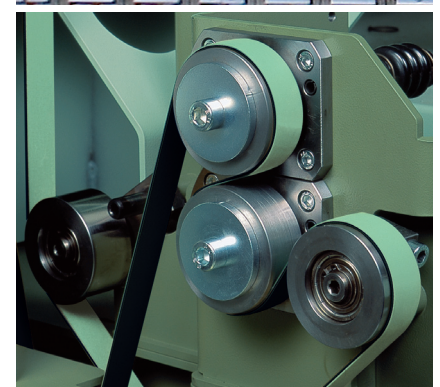
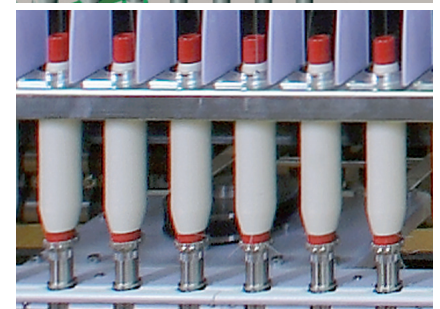
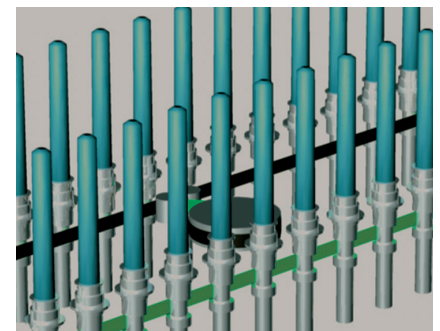
Developed for excellence

Habasit has developed its unique TC and TF belt ranges based on experience, ongoing research, close contacts with the textile industry, and long-term partnerships with leading machine manufacturers.

TC tangential belts: The high-efficiency tangential belt with a **polyester** traction layer, which results in high-accuracy spindle speeds.

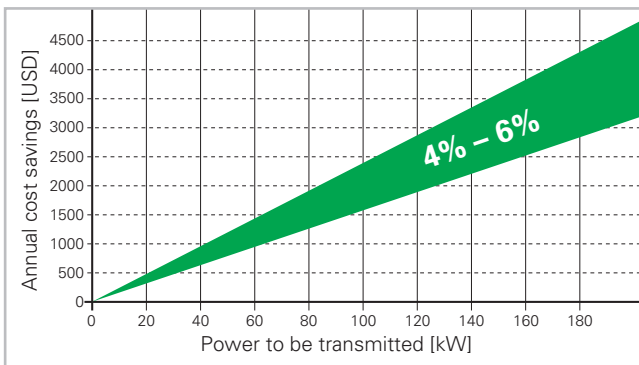
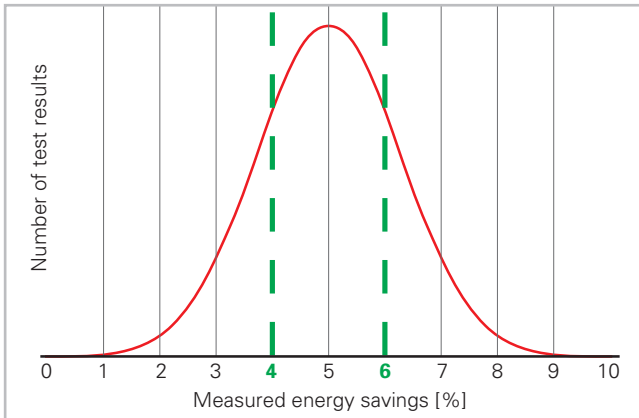
TF tangential belts: The high-efficiency tangential belt with an **aramide** traction layer, resulting in the highest accuracy spindle speeds and shortest take-up.

Features	TC	TF	Benefits
<ul style="list-style-type: none"> • High efficiency 	●	●	<ul style="list-style-type: none"> → Energy and cost savings → Energy consumption reduced by 4% – 6% → Economical → Reduced operating costs
<ul style="list-style-type: none"> • Adhesive-free joining method 	●	●	<ul style="list-style-type: none"> → Simple and fast joining → Easy handling (no adhesives) → Minimum equipment required → Short machine downtimes → Reduced operating costs
<ul style="list-style-type: none"> • Reliable and homogeneous joining quality 	●	●	<ul style="list-style-type: none"> → High spindle speeds → No vibration → Consistent yarn quality
<ul style="list-style-type: none"> • TC range: high elastic modulus 	●	●	<ul style="list-style-type: none"> → High accuracy of speed → Consistent yarn quality
<ul style="list-style-type: none"> • TF range: top-grade elastic modulus 		●	<ul style="list-style-type: none"> → Highest accuracy of speed even with very long belts
<ul style="list-style-type: none"> • Optimized design 	●	●	<ul style="list-style-type: none"> → Low noise emissions



For technical details or further information, please contact your local Habasit representative: www.habasit.com

Energy savings with Habasit TC and TF flat belt drives compared with V-belt drives



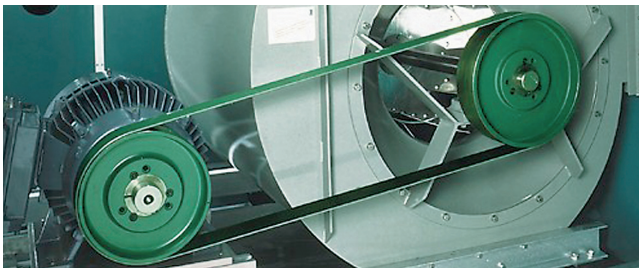
Join the energy-saving campaign

For peripheral equipment and plant infrastructure (e.g. fans, compressors, vacuum pumps, blowers, etc.)

Habasit also provides optimized driving belt solutions. Conversion campaigns at over 2,000 sites have demonstrated that switching from V-belts to Habasit's flat belts reduces energy consumption by **4% to 6%**.

Check your approximate energy cost-saving potential

Assumption:
12 h/day
330 days/year
0.10 USD/kWh



Energy savings on fan drives

The energy-saving properties of the flat belt drive compared to the V-belt drive have been proved during practical tests.

● The illustration indicates the saved energy as a percentage, depending the nominal power of the installed motor.

- Partial load range
- Rated load (full load) range

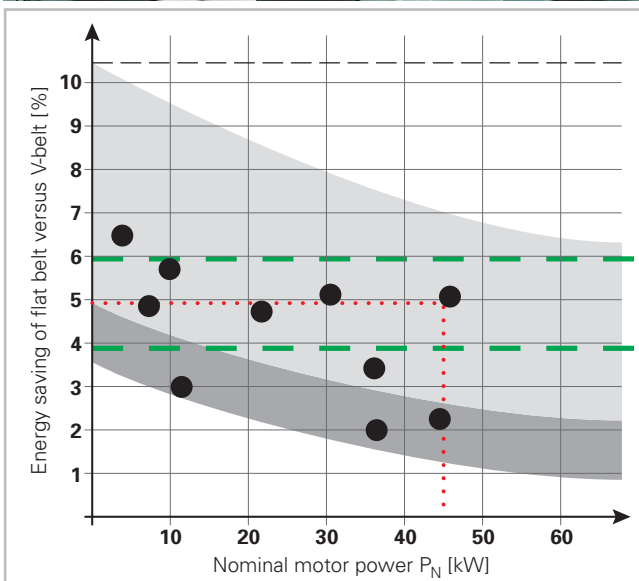
Example (red dotted line):

Energy saving of a fan drive equipped with flat belts on a 45 kW motor:

- at rated load (full load) about 2%
- at partial load about 5%

As electric motors usually work at partial load, the energy-saving potential of a flat belt drive is considerable.

Average: **4% to 6% energy savings.**



World-famous Habasit W-8 **spindle tapes** are energy-saving champions

Saving energy

Saving energy is an important issue for the textile industry today, as power requirements are continuously increasing due to high-speed operations. The ring spinning frame is a major consumer of energy, taking 40% to 60% of total spinning mill energy consumption.

Of this, 1/3 of the power is used to drive the spindles. Spinning mill power costs currently account for about 12% to 18% of the total cost of production.

As a result, saving energy with the spindle tape has become even more vital in the spinning industry. Studies conducted by a leading research institute in South India on modern ring spinning frames at higher spindle speeds have shown convincing results.

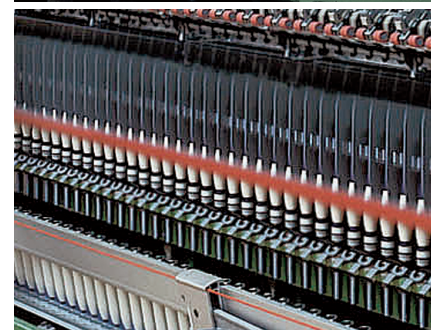
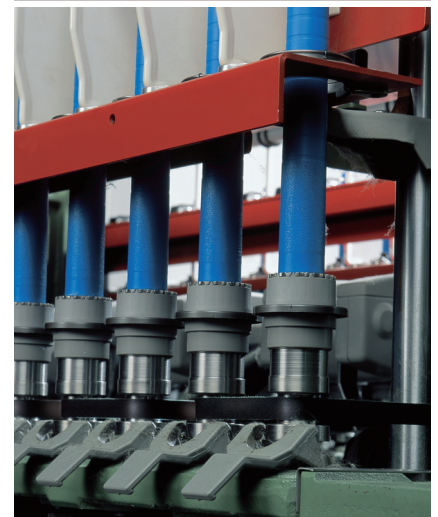
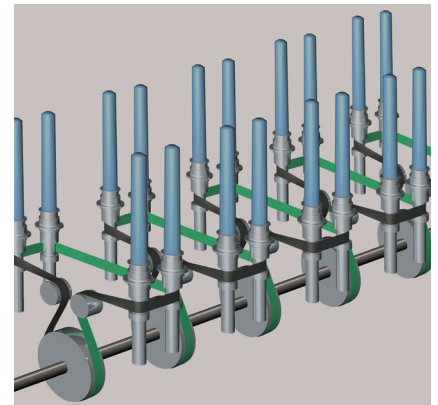
Proven in field tests

Field tests at reputed spinning mills have confirmed that the replacement of polyamide spindle tapes with the highly efficient Habasit polyester W-8 spindle tape provides **substantial energy and cost savings**.



Unique characteristics of the W-8 polyester spindle tape

Features	Benefits
• High tape flexibility	→ Low bending resistance
• Constant high friction (black side)	→ Reliable power transmission
• No fiber and fluff accumulation	→ No slip → Constant spindle speed → Consistent yarn quality
• Dimensional stability, no elongation	→ No slip → Constant spindle speed → Consistent yarn quality



Austria

Habasit GmbH, Wien
 Phone: +43 1 690 66
www.habasit.at

Belgium

Habasit Belgium N.V., Zaventem
 Phone: +32 2 725 04 30
www.habasit.be

Canada

Habasit Canada Ltd., Oakville
 Phone: +1 905 827 4131
www.habasit.ca

China

Habasit East Asia Ltd., Hong Kong
 Phone: +852 2145 01 50
www.habasit.com.hk

Habasit (Shanghai) Co., Ltd.
 Shanghai
 Phone: +8621 5488 1228
 Phone: +8621 5488 1218
www.habasit.com.hk

France

Habasit France S.A.S., Mulhouse
 Phone: +33 389 33 89 03
www.habasit.fr

Germany

Habasit GmbH
 Eppertshausen
 Phone: +49 6071 969 0
www.habasit.de

India

Habasit-lakoka Pvt. Ltd., Coimbatore
 Phone: +91 422 262 78 79
www.habasitlakoka.com

Italy

Habasit Italiana SpA
 Customer Care:
 Phone: 199 199 333
 For int. calls: +39 0438 911444
www.habasit.it

Japan

Habasit Nippon Co. Ltd., Yokohama
 Phone: +81 45 476 03 71
www.habasit.co.jp

Netherlands

Habasit Netherlands BV, Nijkerk
 Phone: +31 33 24 72 030
www.habasit.nl

New Zealand

Habasit Australasia Ltd., Hornby
 Phone: +64 3348 5600
www.habasit.co.nz

Norway

Habasit Norge A/S, Oslo
 Phone: +47 81 55 84 58
www.habasit.no

Poland

Habasit Polska Sp. zo.o.,
 Dąbrowa Górnicza,
 Phone: +48 32 639 02 40
www.habasit.pl

Russia

OOO Habasit Ltd., St. Petersburg
 Phone: +7 812 325 40 82
www.habasit.ru

Singapore

Habasit Far East Pte. Ltd., Singapore
 Phone: +65 6862 55 66
www.habasit.com.sg

Spain

Habasit Hispanica S.A.,
 Barberà del Vallès
 Phone: +34 93 719 19 12
www.habasit.es

Sweden

Habasit AB, Hindas
 Phone: +46 301 226 00
www.habasit.se

Switzerland

Habasit GmbH, Reinach
 Phone: +41 61 577 51 00
www.habasit.ch

Taiwan

Habasit Rossi (Taiwan) Ltd.
 Taipei Hsien
 Phone: +886 2 2267 0538
www.habasit.com.tw

Turkey

Habasit Kayis San. Ve Tic. Ltd. Sti.
 Yenibosna - Bahcelievler - Istanbul
 Phone: +90-212-654 94 04
www.habasit.com.tr

Ukraine

Habasit Ukraina, Vinnica
 Phone: +38 0432 58 47 35
www.habasit.ua

United Kingdom and Ireland

Habasit Rossi (UK) Ltd., Silsden
 Phone: +44 870 835 9555
www.habasitrossi.co.uk

USA

Habasit America
 Conveyor belts, power
 transmission belts, gearmotors
 Suwanee, Georgia
 Phone: +1 800-458-6431
www.habasitameric.com

Habasit America
 Seamless belts, timing belts
 Middletown, Connecticut
 Phone: +1 860 632 2211
www.seamlessbelts.com
www.habasync.com

Rossi is one of Europe's largest
 manufacturers of gear reducers,
 gearmotors, inverters, standard
 and brakemotors, and is a
 member of the Habasit Group.

Rossi S.p.A.
 Via Emilia Ovest 915/A
 41123 Modena – Italy
 Phone: +39 059 33 02 88
www.rossi-group.com
info@rossi-group.com

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**Headquarters**

Habasit AG
 Römerstrasse 1
 CH-4153 Reinach, Switzerland
 Phone +41 61 715 15 15
 Fax +41 61 715 15 55
 E-mail info@habasit.com
www.habasit.com

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