

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

Saving energy

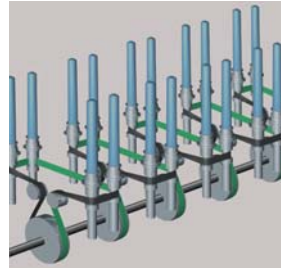
Saving energy is an important issue for the textile industry today, as power requirements are continuously increasing due to high-speed operations. The ring spinning frame is a major consumer of energy, taking 40% to 60% of total spinning mill energy consumption.

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**.



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

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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

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 |



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**

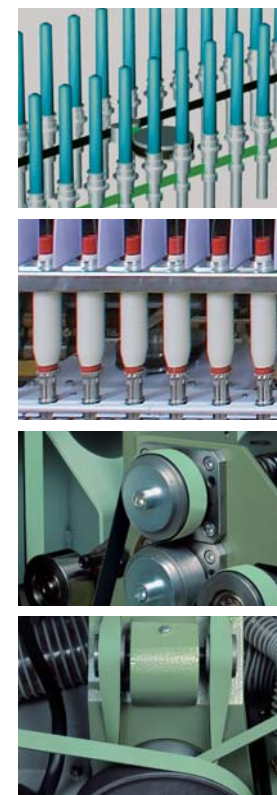
Developed for excellence

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.

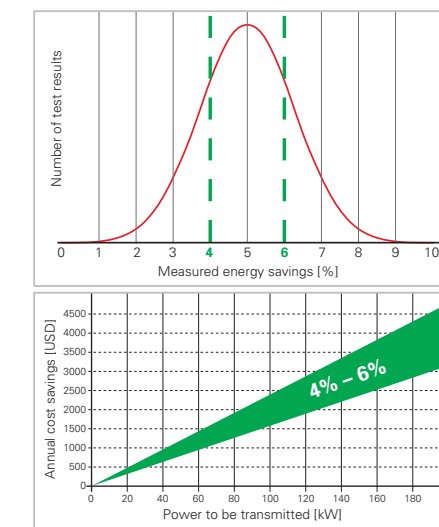
TF tangential belts: The high-efficiency tangential belt with an **aramide** traction layer, resulting in the highest accuracy spindle speeds and shortest take-up.

| Features | TC | TF | Benefits |
|--|----|----|---|
| • High efficiency | ● | ● | → Energy and cost savings → Energy consumption reduced by 4% – 6% → Economical → Reduced operating costs |
| • Adhesive-free joining method | ● | ● | → Simple and fast joining → Easy handling (no adhesives) → Minimum equipment required → Short machine downtimes → Reduced operating costs |
| • Reliable and homogeneous joining quality | ● | ● | → High spindle speeds → No vibration → Consistent yarn quality |
| • TC range: high elastic modulus | ● | ● | → High accuracy of speed → Consistent yarn quality |
| • TF range: top-grade elastic modulus | ● | ● | → Highest accuracy of speed even with very long belts |
| • Optimized design | ● | ● | → 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

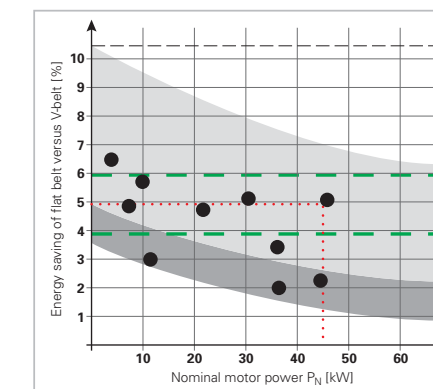
Assumption:
12 h/day
330 days/year
0.10 USD/kWh

**4% - 6%
energy
and cost
savings**



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 on 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.**