Case Study

TeraSpin drafting up-gradation improves old roving frames' performance

Many mills have old roving frames equipped with pneumatic drafting. The performance of old roving frames with pneumatic drafting deteriorates with continuous usage affecting yarn quality, productivity, etc.

Background

Some time back several mills in India started facing problems related to roving quality and productivity on their roving frames. All their roving frames were equipped with pneumatic drafting. The mills included Choundeshwari Shetkari Sahakari Soot Girani Ltd. (installed capacity of 22,800 spindles) at Kolhapur, Indira Gandhi Mahila Sahakari Soot Girani Ltd., (installed capacity of 27216 spindles) at Ichalkaranji, and another leading textile mill with an installed capacity of 24180 spindles.

Challenge

The existing drafting systems were not able to support the mill's quality as well as productivity requirements due to various factors like:

1. Leakage in pneumatic loading system
2. Variation in top roller loading
3. Deteriorating roving and yarn quality

Solution

These mills approached TeraSpin – an expert in spinning machinery components – for a solution to improve the quality and productivity of their roving frames.

After complete study and analysis of their existing pneumatic drafting, TeraSpin offered a customised drafting up-gradation kit to each of the mills consisting of some standard drafting components as well as certain tailor-made drafting components. This proved to be an excellent solution for addressing the challenges faced by the mills.

Solution

The results achieved by the mills after the drafting upgradation are quite encouraging. All the mills process 100% cotton.

Indira Gandhi Mahila Sahakari Soot Girani Ltd.

- Roving quality improved by 5-7%
- Consistent quality of roving
- No compressed air, so no leakage
- Maintenance-free drafting

Choundeshwari Shetkari Sahakari Soot Girani Ltd.

- Roving breaks reduced from 5-6 % to 2%
- Roving U% improved from 5% to 4%
- IPI reduced by 100 in Ne 32KW
- Ring frame end breaks reduced by 1.5%
- Consistent quality of roving
- Maintenance-free drafting

The result achieved by the 3rd mill is also equally encouraging

- Roving U% improved by 0.5%
- Consistent quality of roving
- Cost of cots and aprons came down by 25%
- Maintenance-free drafting

Conclusions

The TeraSpin spring loaded drafting gives better and consistent roving and yarn quality as compared to pneumatic drafting, saves power as it does not require compressed air, and zero maintenance.
All the mills are delighted with the results achieved with the TeraSpin drafting up-gradation kit.

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