

APPLICATION CASE STUDY



DOC.NO. : AMTCS-10

HOST ORGANIZATION : ASIAN TRADING COMPANY., SURAT.
INDUSTRY : TEXTILE PROCESSING HOUSE
APPLICATION : TEXTURISING MACHINE (HIMSON SDS-7 & SDS-8)
PREVIOUS SYSTEM :
The 50HP main motor of the machine is driving the friction ,winder and traverse arrangement.The motor has STAR-DELTA arrangement.Processing speed changing is accomplished by pulley changing arrangement.

PROBLEMS OBSERVED :

1. TO maintain yarn quality speed setting is required which was not possible between two pulley sets.Also time to time pulley changing is tedious and time consuming.
2. Production suffered when supply frequency is below 50Hz.
3. Jerk starting is causing wear & tear.Which requires frequent maintenance.
4. Breakages observed high.
5. High inrush current 6 to 7 times durring starting.
6. Higher capacity D-G set required.
7. Machine restart with 25% or more doff is not possible.

NEW SYSTEM : Instead of **star-delta** starter.The main motor is controlled by **AC** variable frequency drive.

MERRITS OF NEW SYSTEM :

1. The smooth starting of the inverter has reduced the high inrush current and hence KVA demand reduced. Which inturn reduces D-G set KVA from 175 KVA to 150 KVA capacity results into lower capital investment.
2. Breakages at time of starting and stopping reduced due to soft start & stop.
- 3 The inverter is supplying constant frequency irrespective of input supply frequency fluctuations. Also frequency boosting is possible which increase the production.
- 4 Quality of the yarn is improved due to the simple speed control facility.
- 5 Power dip problem was tripping the machine caused heavy production loss which is avoided by inverter power loss carry through (PLCT) feature.
- 6 The life of mechanical moving parts such as bearings, belts, shaftins, gears increased and hence life of machine is also increased. Beacuse the maximum wears and tears are due to the heavy jerk shart which is eliminated by inverter smooth start.

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