

BROAD – PREMIUM TEXTILE CASE STUDY

INTRODUCTION

Premium Textile was established in 1989. Manufactures and supplies a complete range of knitting yarns for the quality conscious & value added knitter. At any given time Premium Textile produces 30+ varieties of yarns including Injected Mélanges, Injected Slubs, Space Dyed, Neppy, Snow Effect, Cloudy, Tri-blends, Mouline, Siro, Fancy Fibers (Italy), PC, CVC, Chain, PV and many more. They export Fancy Yarns to long term customers across 4 continents in Carded, Combed, Autocoro and MVS.

PROCESS DETAILS

Premium Textile is a manufacturer of knitting yarns. The process involved through which these yarns are produced is open end spinning.

Open-end Spinning:

Open end spinning is a technology for creating yarn without using a spindle. It is also known as break spinning or rotor spinning. In this process the fiber sliver is separated into single fibers. The separated fiber material is brought by an air stream to a collecting surface from which it is drawn off while being twisted. It is a more recent method of yarn formation compared to Ring Spinning. It is generally used for coarser yarns but with very high output levels.

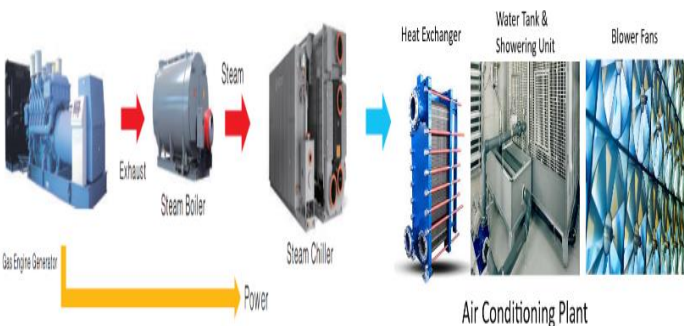
ENVIRONMENT

Open-end Spinning process requires a controlled environment for better functioning of machines and superior end product quality.

Ambient temperatures are controlled to remove the heat from machines and plant room, while humidity is controlled for superior end product quality.

Usual requirement for open-end spinning process is humidity less than 50 and temperatures around 24-26 degrees Celsius.

To meet the aforementioned environment requirements, Chillers and AC Plants are incorporated in the system.



CHILLER

BROAD has supplied one Steam Operated Absorption Chiller, which operates against the steam which is produced by waste heat recovery boilers using engine exhaust. Another advantage is that power house efficiency is increased and waste heat is conserved.

Model	Category	USRT	Annual OPEX Savings (PKR)
BS100	Steam from WHRB	330	13 Million



AC PLANTS

AC Plants usually comprise of three components:

- Heat Exchanger:** Chilled water from chiller goes into the primary side and returns to the chiller after getting hot.
- Water tank:** The water in this tank goes into the secondary side of heat exchanger and gets cooled down. This water is then showered and recollected inside the tank.
- Blower Fans:** The blower fans blow air onto the shower of tank water hence making the air cool and humid.

The cool and humid air then goes to the open end spinning rooms to meet the environment requirements.

TECHNICAL FEATURES

- Total capacity = 330 USRT
- Chiller with TITANIUM TUBES. Increased lifespan of 60 years.
- Smart Chiller. Able to control auxiliaries as per demand.
- Real time online COP displayed on the chiller screen. All chillers are being monitored at BROAD Global Monitoring Center for free throughout chiller life span. Three tier monitoring.
- Free of cost solution sampling service throughout chiller lifespan.
- Efficiency of both power houses increased above 60% through BROAD chillers.