

Project Title-20	Development of a “Compact” yarn spinning system for yarn quality improvement
Principal Investigator	K.P. Chellamani
Cost	Rs.25.50 lakhs
Date of Commencement	01.09.1999
Duration	24 Months
Date of Completion	Sep 2001
Abstract	Developing a compact yarn spinning system to optimize process parameters like air pressure and the number of perforations in the apron, while manufacturing compact yarn and compare the properties of compact yarns with conventional yarns
Highlights	<ul style="list-style-type: none"> ▪ With a view to develop a low cost attachment as a substitute for the recently introduced imported machines for fibre consolidation in the drafting zone of the ring frames towards yarn quality improvement, this project has been undertaken ▪ The attachment developed in this project consists of perforated bottom aprons and perforated nose bars which are to be installed in the front zone of the ring frame. Air current is applied through the perforated aprons on the fibrous web. Both blowing mode and suction mode has been employed for air current application ▪ Application of air current on the fibrous web is found to reduce the altitude of the spinning triangle by about 20% and base length by about 15% ▪ Adoption of the new method is found to improve the yarn quality in terms of hairiness by about 30% and abrasion resistance by about 35% in blowing mode of air current application. In suction mode, hairiness reduces by 20% and abrasion resistance improves by 25%. Other yarn quality attributes like tenacity, evenness and imperfections are not found to be affected while applying air current on the fibrous web
Area of applicability	spinners
Target beneficiaries	<ul style="list-style-type: none"> • The study findings were disseminated to SITRA member mills
Status	Completed