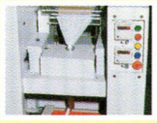
CIRCOT Leaftlet No. 18

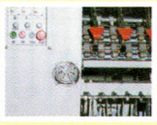
CIRCOT-TRYTEX MINIATURE SPINNING SYSTEM

- QUICK ASSESSMENT OF SPINNING QUALITY FROM TESTS ON SMALL FIBRE SAMPLES
- TECHNOLOGICALLY ADVANCED
- SCIENTIFICALLY DESIGNED
- BACKED BY YEARS OF EXPERTISE IN MICROSPINNING
- EASE OF OPERATION

CARDING



DRAW FRAME



SLIVER-TO-YARN SPINNER

ROTOR OE SPINNER

COMPUTERISED RING FRAME

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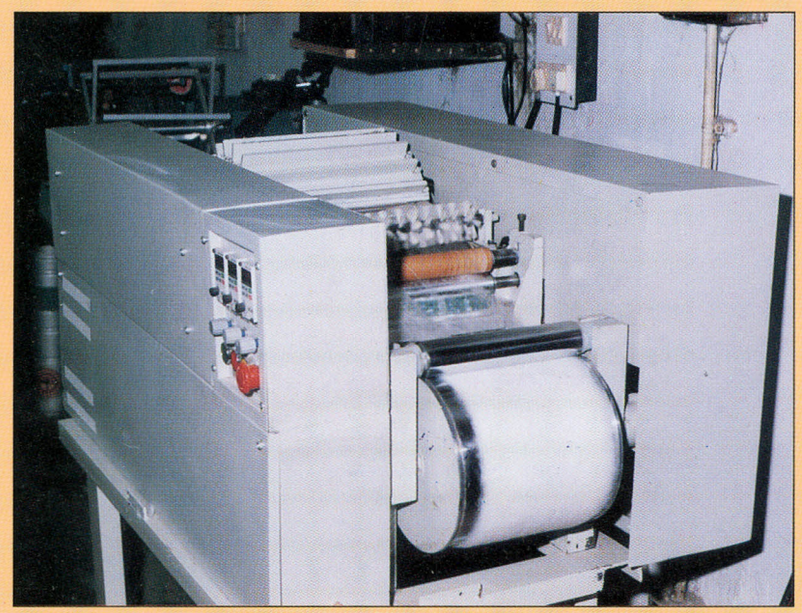
Selection of proper raw material is vital for any industrial processing activity, for it largely tells upon the quality of the finished product. Choosing the right type of cotton for yarns and fabrics having desired quality is no exception, as the ultimate quality of the product depends on the raw cotton selected for processing through various types of machines. The ideal method of raw material selection would be to undertake a full-scale trial using large quantities of raw cotton to gauge the spinning behaviour under the mill conditions. However, it will not be always practicable due to constraints on the availability of the raw material in adequate quantities and time factor for processing apart from other economic reasons. The alternative is to look for a test in which a small part of the raw stock is subjected to the whole manufacturing processes. However, it is impossible to treat very small samples on a full scale spinning plant. This situation had prompted CIRCOT to develop a Microspinning Technique way back in the fifties, which has been modified recently to accomplish better performance. This technique is regularly employed at CIRCOT for screening breeders' samples as well as test samples being received from trade and textile industry. As a further improvement, CIRCOT in collaboration with TRYTEX, Coimbatore has recently developed a Miniature Spinning System consisting of various table model machines designed with state-of-the-art technology. The advantages of this system are:

- *Cotton fibre samples or their blends weighing as low as 40 g can be processed easily to produce sufficient quantity of yarn for quality evaluation to get reproducible results.*
- *Highly suitable for optimising different spinning as well as yarn parameters in bulk spinning process.*
- *The machines are operator-friendly and the entire spinning process can be completed within an hour.*
- *Eminently suitable for cotton trade, textile mills, research laboratories, educational institutions, training centres and breeding stations for assessing spinning quality of small fibre samples.*

SALIENT FEATURES

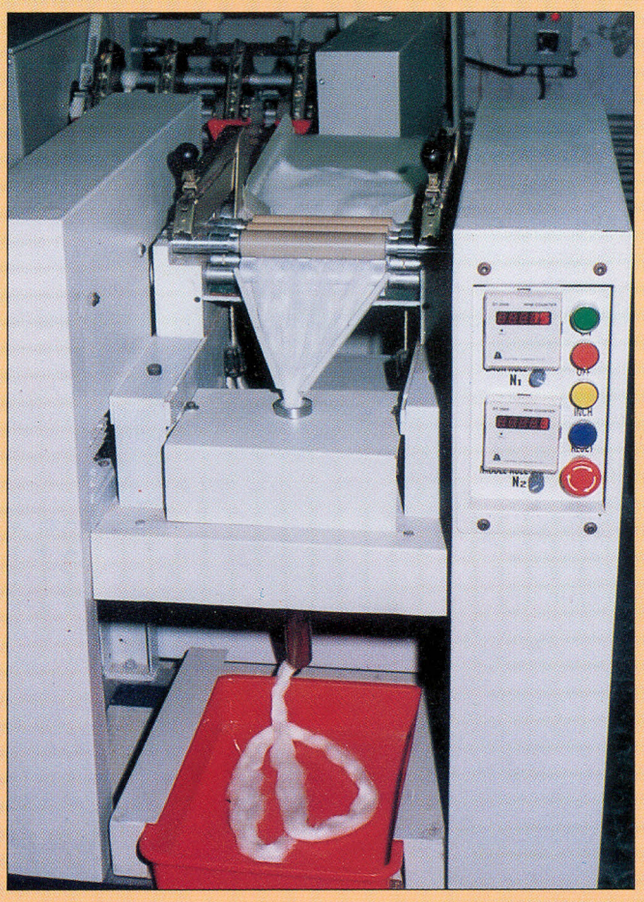
Carding Machine



- Individual inverter drive systems for cylinder, licker-in and doffer for quick speed and draft setting
- Gearless driving of working elements
- Surface-grounded and hard chrome plated fluted feed roller and plain polished web doffing roller supported on bearings
- Stainless steel undercasing for licker-in and cylinder
- Modified web doffing device consisting of stripping roller and a pair of web crushing rollers in place of conventional doffer comb
- All working elements fully clothed with metallic wire
- Noiseless and vibration-free power transmission due to elimination of gears
- Fitted with attractive safety covers and an emergency stop switch

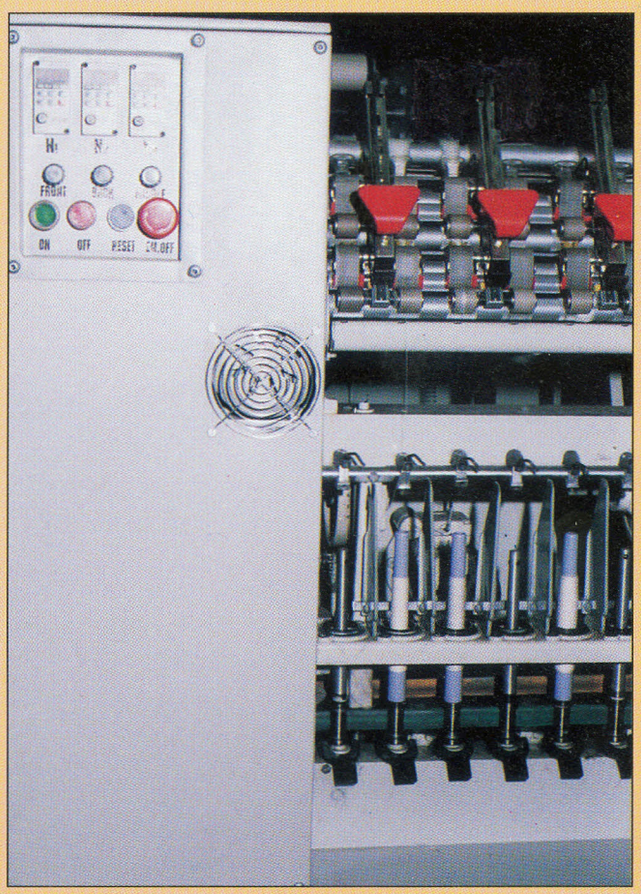
Drawframe

- Gearless and robust design with inverter drive control systems
- Equipped with adjustable spring-loaded "3 over 3" drafting system
- Separate coloured push-button switches for inching as well as for start and stop operations
- Helical fluted bottom rollers on bearings and top rollers with needle- bearing end bushes
- Tongue-and-groove type chrome plated calender rollers supported on bearings
- Perfect coiling of sliver in the bottom tray with provision for changing trumpet depending on sliver hank
- Facility for easy roller settings for fibre length up to 60 mm
- Quick setting of break draft and main draft via front panel knobs
- Clearer pads for cleaning top and bottom rollers
- Fitted with attractive safety covers and an emergency stop switch

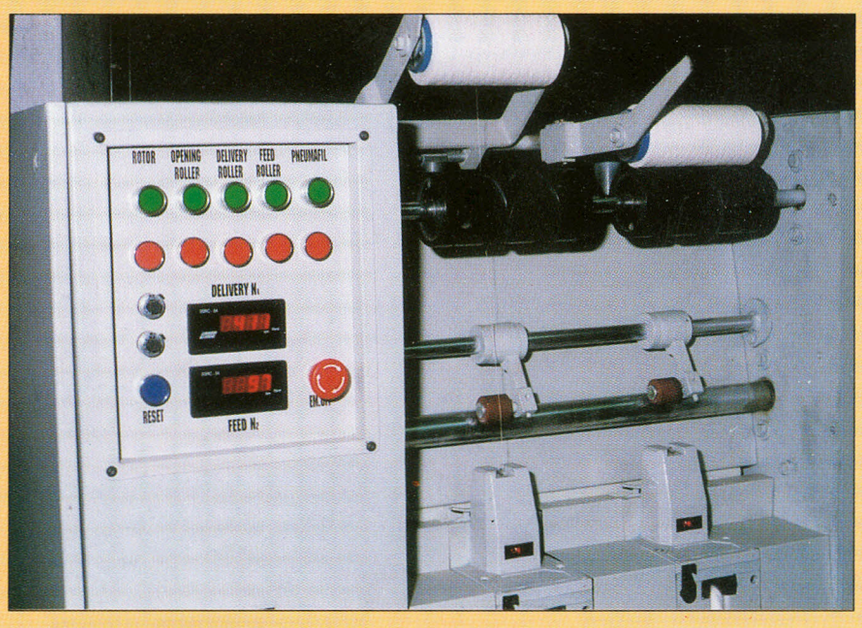


Sliver-to-Yarn Spinner

- "4 over 4" roller apron drafting system with opposite helix flutes in the chrome-hardened bottom rollers
- Spring-loaded top drafting rollers with high draft capacity up to 300-fold
- Gearless individual inverter drive systems for drafting rollers for easy setting of break draft, main draft, total draft and twist by front panel knobs
- Pneumafil suction system for broken end collection
- Elimination of tin roller drum/pulley by incorporation of a tangential tape drive system for spindles
- Aluminium plug type light weight and vibration-free spindles with 19.5 mm wharve diameter supported with high speed insert in the bolster
- Fitted with moving lappet rail, balloon separators and high speed rings
- Separate motor for spindle drive (speed regulation by inverter drive system provided on demand)
- Covered with attractive safety covers and an emergency stop switch

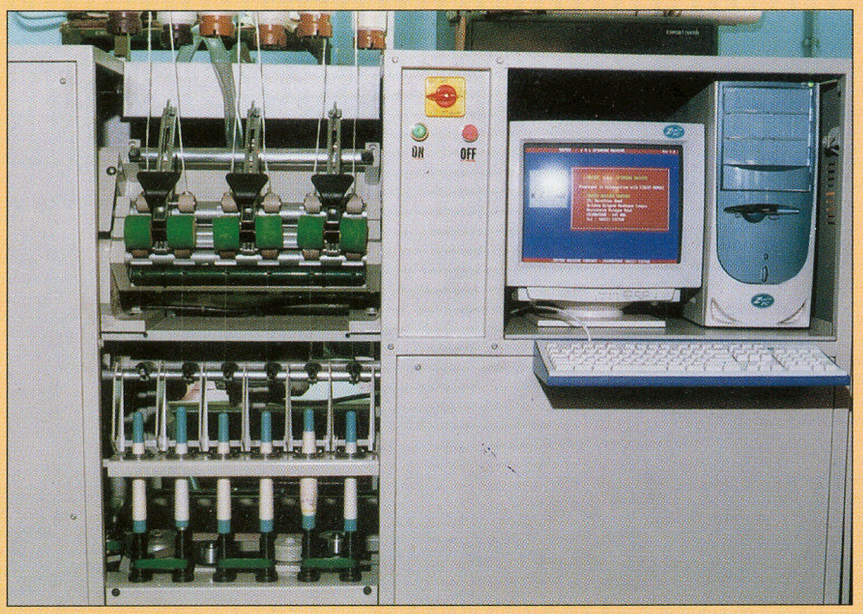


Rotor OE Spinner



- Individual gearless motor drive to feed roller, rotor, opening roller, winding unit and suction system
- Easy setting of speeds, draft and yarn twist via front panel knobs through inverter control systems
- Yarn break detector and sensor for each head
- Precision and high quality machine components with advanced surface finish (chrome plating) to ensure durability and reliable operation
- Tangential belt drive for rotors supported on roller bearings
- Winding of yarn on cylindrical cheese
- Easy changing of rotors and opening rollers
- Facility to reset inverter drive systems in case of malfunctioning
- Fully enclosed machine with attractive safety covers and an emergency stop switch

Computerised Ring Frame



- "3 over 3" roller double apron high drafting system with opposite helix flutes in the chrome-hardened bottom rollers
- Gearless individual inverter drive systems for easy setting of break draft, total draft, spindle speed, yarn twist and ring rail speed
- Elimination of tin roller drum/pulley by incorporation of a pulley and tape drive system for spindles
- Computerised operator interface for ease of use
- Aluminium plug type light weight and vibration-free spindles with 19.5 mm wharve diameter supported with high speed insert in the bolster
- Fitted with moving lappet rail, balloon separators and high speed rings
- Pneumafil suction system for broken end collection
- Easy/quick changing of machine parameters from one set-up to another via an interactive software
- On-line machine running status information with display of spinning parameters
- Yarn spinning perfection through adjustable spinning geometry
- Provision for slub yarn production with setting of slub length and spacing as required
- Fitted with attractive safety covers and an emergency stop switch

MAIN SPECIFICATIONS

Carding Machine:

Dimensions (mm)	:	1710 x 780 x 550
Working width (mm)	:	240
Total power requirement	:	0.75 HP, 3 phase, AC
Wire points	:	all Metallic
Delivery lap hank	:	0.0100 to 0.0140
Delivery rate (m/min) (max.)	:	10

Drawframe:

Dimensions (mm)	:	1140 x 690 x 830
Total power requirement	:	0.75 HP, 3 phase, AC
Drafting system	:	3 over 3, two zone
Draft/ Delivery/ Doubling	:	up to 13/ Single/6 -10 fold
Sliver hank	:	0.080 to 0.50
Delivery rate (m/min) (max.)	:	150

Sliver to Yarn Spinner:

Dimensions (mm)	:	1045 x 890 x 970
Spindle gauge (mm)	:	70
Lift (mm)	:	152
Drafting system	:	Super high draft, spring loaded
Ring diameter (mm)	:	38/42
Spindle speed (rpm)	:	10,000 (upto 15,000 on request)
Total power requirement	:	1.25 HP, 3 phase, AC
Broken end collection	:	by pneumatic suction
Draft /TPI	:	up to 300/18 to 50

Rotor OE Spinner:

Dimensions (mm)	:	1200 x 650 x 810
Yarn count, Ne (tex)	:	4 to 30s (147 to 20)
Draft	:	40 to 160
Rotor speed (rpm)	:	30,000 (upto 60,000 on request)
Rotor diameter (mm)	:	43, 48, 54, 66
Spinning positions	:	Two
Total power requirement	:	1.25 HP, 3 phase, AC

Computerised Ring frame:

Dimensions (mm)	:	1540 x 800 x 2080
Spindle speed (rpm) (max.)	:	20,000
Total power requirement	:	1.25 HP, 3 phase, AC

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