

Unity ENGINEERS

योग : कर्मसु कौशलम्

UNITY ATIRA MARK-I

Innovative
&
Versatile
Design

Integral
Twin Bearing
Design
(PATENTED)

Energy Efficient
& User Friendly
Ring Frame
Spinning Machine



MANUFACTURED BY UNITY ENGINEERS, BARODA - GUJARAT

in collaboration with

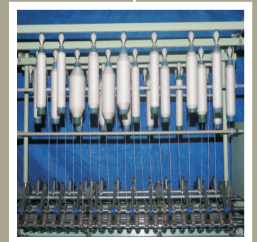
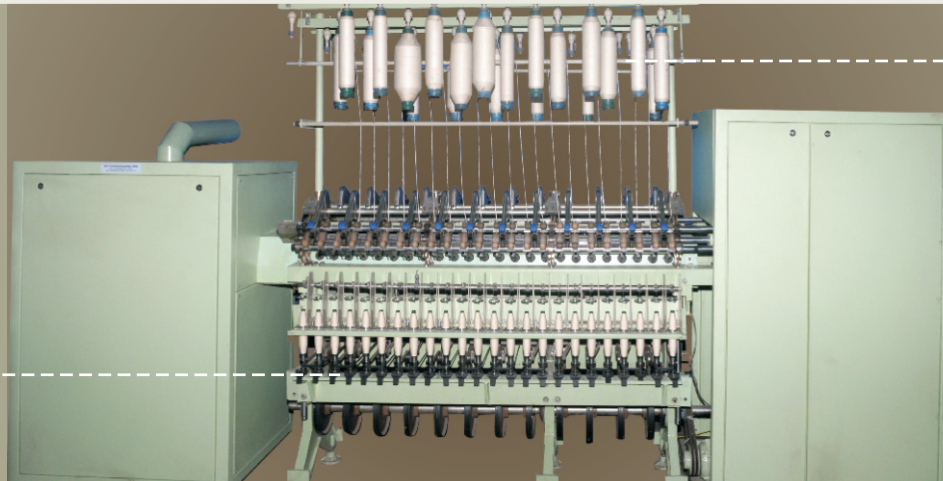
ATIRA (Ahmedabad Textile Industry Research Association)

The Company

Unity Engineers is a technology driven engineering company specializing in development of high end import substitute Plant & Machinery.

The company has joined hands with ATIRA (Ahmedabad Textile Industry Research Association) which is a widely reputed textile research institute engaged in the service of textile industry since 1949.

"UNITY ATIRA MARK-I" is a technologically advanced, Innovatively designed and Energy Efficient Ring Frame Spinning machine. The machine has a unique patented "Integral Twin Ball Bearing Spindle System".



The robust design, precision machining and Power Saving features of the machine give Spinning Mills a cutting edge as they increase the overall Efficiency and Profitability. The machine has many distinct features which make it different from the available conventional Ring Frame machines, offering ease of operation, least maintenance and reduced replacement cost.

“JOINT PROJECT OF UNITY ENGINEERS & ATIRA”

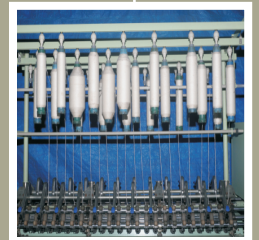
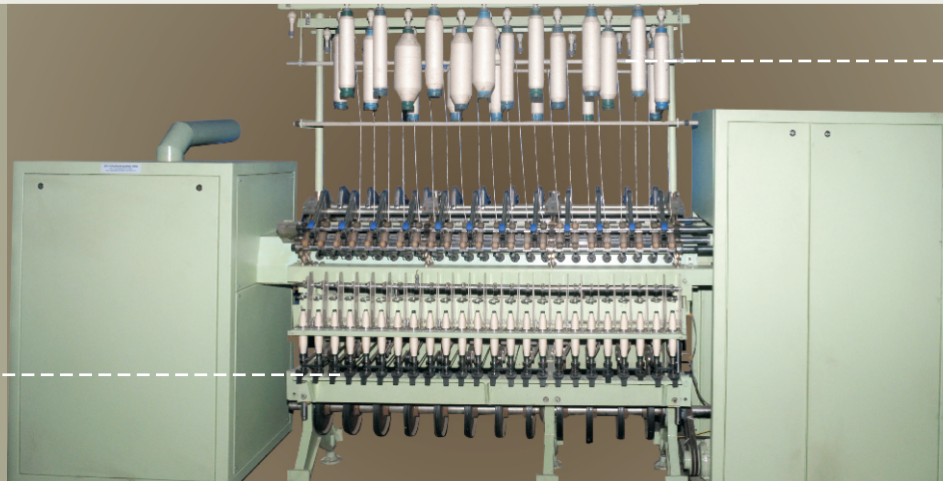
Salient Features

Introducing the first Ring Frame Spinning Machine in the world having Spindle with Twin Ball Bearing system. As a result, unlike conventional Spindles where Spindle & Bolster have to be discarded upon wearing, MARK-I spindles can be continued in use by simply changing the bearings.

The only Ring Frame Spindle in the world to have 16 mm dia. wharve enabling it to achieve Higher Speeds with Better Power Efficiency.

No need for periodic Oil Lubrication as the sealed Bearings are lubricated for life. Big saving on the maintenance as well as cost of Lubricating oil. Also increases the production as down time for oil change is eliminated.

Electronically controlled up-down building motion of the Ring Rail employing encoder based feedback system for precision & infinite flexibility in setting the chase length as well as traverse speeds, without any mechanical changes like cams, gears etc. thereby enabling Optimal Package Shape and Yarn Content for all yarn counts.



Completely new Simplified Driving System avoiding massive gearing. Hence, lower power consumption, lower inventory & maintenance cost and simplified maintenance. Over all higher productivity and increased profitability.

New Pneumafil System having damper system for controlling suction as desired, saves on the power.

State of the art integration of Spindle Speed with Ring Rail movement and Drafting system through AC Frequency Drive and PLC for achieving better & consistent product quality.

E-drafting : Allows user to change TPI & draft directly from the Control Panel enabling speedy change of product quality.

“INNOVATION = HIGHER PROFITS”

TECHNICAL SPECIFICATIONS OF UNITY-ATIRA MARK-I

Maximum no.of spindles	1008 / 1248
Spindle gauge	70mm
Spindles per staff	8
Spindle Speed	Max 25,000 rpm (mechanically)
Spindle driving system	4 Spindle tape drive
Lift	160 ~ 185 mm
Spindle Type	Twin Ball Bearing (Patented)
Wharve Diameter	16.0 mm
Spindle Speed regulation	By A.C. Frequency Drive
Spindle Taper	1:40, or as per customers choice
Draft System	Three Roller, Twin Apron
Bottom Apron type	Short Bottom Apron
Weighting arm	PK 2025 / PK 2035, PK 2130 / PK 2135
Yarn Count	Ne 10 ~ 120
Raw Material	Cotton, Man made fibers and Blends
Direction of Twist	i) "S&Z" Twist - Double Jockey pulley ii) "Z" Twist - Single jockey pulley
Ring Diameter	36 ~ 45mm
Pneumafil System	Damper Controlled.
Lifting motion & snarl elimination	Through A.C. Frequency Drive, Induction Motor & Gear Box
Creel	Six Row with Reserve Bobbin
Roving Package Size	406 mm x 146 mm
Machine Control	PLC
Operation Panel	MMI, 5.7" Touch Screen with Color Display
	1008 Spindles : 1248 Spindles
Pneumafil Motor (KW)	5.5 (KW) : 5.5 (KW)
Ring Rail & Lappet Movement Motor (KW)	1.5 (KW) : 1.5 (KW)
Spindle + E-Drafting Motor(KW)	30.0 (KW) : 37.5 (KW)

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