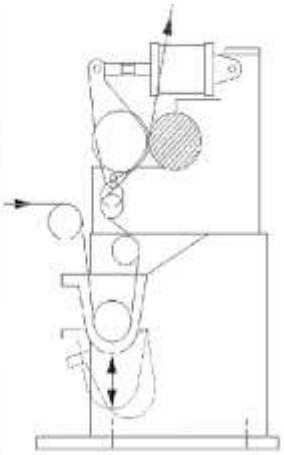
InspirOn Engineering is committed to serve the textile processing industry with innovative technology

InspirOn, with long experience of producing Stenters for over 20 years, has created satisfied customer base of around 225 Stenter machines; in the last 2 decades. Having started in technical collaboration with A.Monforts, in 2012, InspirOn decided to develop its own technology and therefore, created state-of-art R&D infrastructure with a dedicated team of professionals for continuous and sustained development in Stenter technology. InspirOn Stenters are marketed under the brand name of **Motex 15000 & SprintOn.**

Higher Drying Efficiency –Achieving optimum solution for higher throughput of Hot air is the prime objective in order to achieve higher drying efficiency. Series of iteration with CFD software, for nozzle development, finally resulted into development of unique “Uniflow” air flow system by R&D team.

Higher Squeezing Padder 12 ton with Triflex Roller

Considering perception of customers who would like to squeeze the fabric optimally prior to drying and also squeeze out liquor from knit fabrics in a manner whereby the basic structure is not distorted - our R&D team developed new high squeezing Padder with following parameters,



- Robust compact frame structure.
- Optimized trough capacity to reduce drain losses substantially (up to 60 liter).
- Pneumatically controlled sliding and tilting trough with user-friendly operation of lifting, level controlling & cleaning.
- Load capacity is increased up to 12 Ton maintaining uniform force of 50 kg/cm throughout fabric width thereby maintaining uniform nip through high squeeze Triflex® Rollers.

After conducting extensive trials at their R&D Centre on various substrates, they finalized the design which would work successfully at customer process house.

Further, new design of Padder enabled processors to achieve:

- uniform padding pressure across the fabric width
- short cloth passage
- Extreme low fabric tension ensuring minimum fabric elongation and horizontal fabric guiding through the Padder rollers. This has ensured that knitted fabric is handled with delicate treatment to the web.
- Higher Squeezing capability ensures optimum pick up % for specific processes e.g. wet on wet finish with desired add on % next, resulting in better productivity.

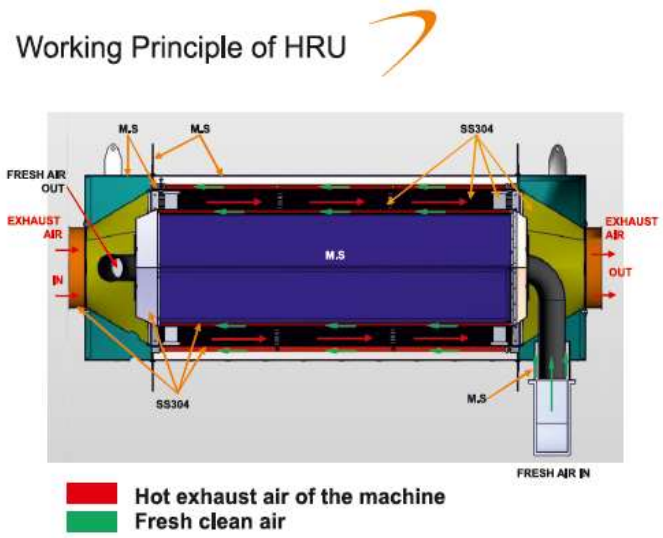
Optional Features:

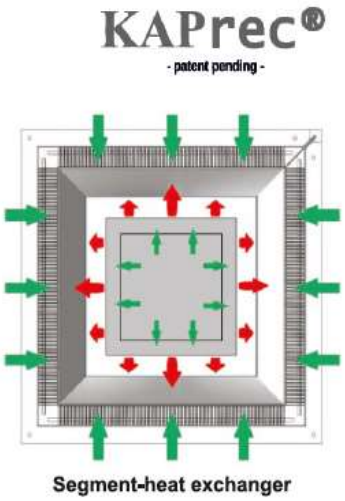
Heat Recovery Unit - KAPrec®

Air-to-Air Heat recovery Unit makes the New series of InspirOn Stenter, more energy efficient.-KAPrec - A unique product, designed by Mr Helge Freiberg former R&D Chief and marketed by Mr Wolfgang Kaphahn former Marketing Director of A.Monforts. InspirOn Engineering (Pvt.) Limited is licensee for manufacturing & marketing of KAPrec HRU.

HRU is a compact unit and is mounted on each chamber of Stenter. This high performance device saves energy by heat recovery. It is supplied in completely pre-

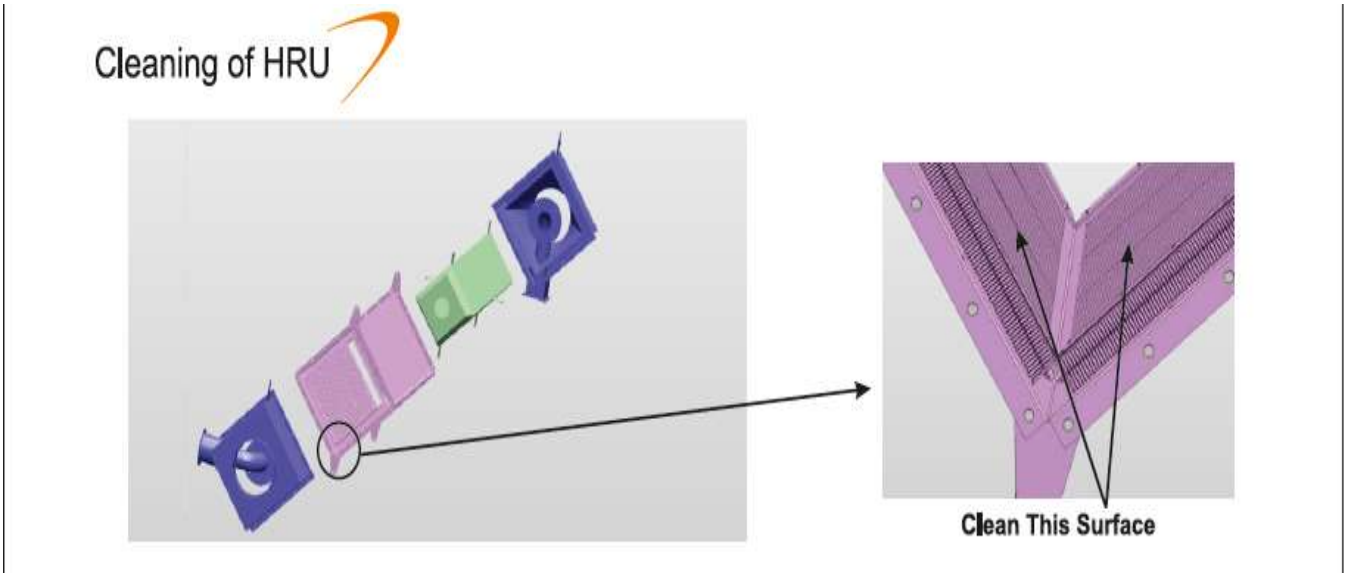
assembled condition and therefore can be readily installed either on new stenter or can be retro-fitted. It can be easily retrofitted into the existing exhaust ducts – no large scale / expensive re-ducting is required.





50mm thick high density insulation is provided inside to prevent heat loss; Due to unique design of HRU, cleaning frequency is ranging from 6 months to 1 year. Other HRUs offered by competitor require very frequent cleaning thereby interrupting production. Production loss with KAPrec HRU will be therefore, minimal. With the rising cost of energy, KAPrec HRU has become a right solution for much needed and sought for energy conservation.

Study was carried out to evaluate the performance of HRU units under controlled (Process & machine Parameters) conditions running with specific substrate at one of the reputed customer's end where 7 HRU Units have been installed on Stenter Machine. Observations were made for inputs properties e.g. Exhaust Air Volume, Exhaust Air temperature, fresh air volume & output properties Delta T, Fresh air inside etc. as ultimately the saving depends on them. Performance evaluation of the HRU for specific processes was done as Energy Saving in Kcal/ hr.



Energy saving Observations as Quantitative Performance evaluation of “HRU Units” for finishing and Heat-setting process was observed at 7000-9000 Kcal/hour and around 10000-13000 Kcal/hour for each HRU. HRU units are mounted on individual chamber, considering the 8 HRUs mounted on a 10F Chamber machine at one of the customer’s place, saving is observed around 60000-70000 Kcal / hr. and 80000-100000Kcal /hr. in finishing and heat-setting processes respectively.

Over 125 installations of KAPrec HRU units are currently running successfully in organizations like Vardhman, Arvind, Raymond etc. and in the process have make our Stenter more energy efficient.

Artificial Intelligence (Process Control & Automation)

Textile industry is rapidly moving to adopt Industry 4.0 Standards. Considering this development, all new features shall support besides automation, adoption of Industry 4.0 standard at customer’s end. Features which shall support transformation of modern controls are

- Web App for remote visualization of HMI screen via smart phone or tablet devices.
- Remote access for online diagnosis,
- On line process control & monitoring through unified HMI and Data Analysis on real time basis through SCADA System
- Process Automation & Control with Pleva sensors

Optimized Energy Consumption: Energy cost / kg of fabric

InspirOn Stenters have performed in corporate customers like Arvind, Raymond and Vardhman where considerable savings in thermal and electrical energy is achieved. Corporate customers have therefore, placed repeat orders and as such we have supplied 13 Stenters to Arvind Mills and 7 to Raymond.

Versatility

SprintOn / Motex 15000, having very sturdy design has very low maintenance cost. It provides complete solution for all kinds of substrates (Woven / Knits / Technical Textiles from 200 gsm to 800 gsm or more).

Further, the utility of InspirOn Stenter (SprintOn / Motex 15000) can be greatly enhanced by inbuilt features or additional features as per the requirement of customer, as mentioned below:

1. Cradle & Brushing units for Denim
2. Higher squeezing Padder
3. Pin protection flapper
4. Cushioning effect for Knits
5. High operational speeds up to 150 mpm

SprintOn / Motex 15000 is capable of producing desired finishing effects for shirting and suiting which normally processors feel by hand. Thanks to the mechanical, electrical and electronic features which in combination enables machine to reproduce same process parameters ensuring of achieving desired finish of fabric on repeat runs.

Sustainable development – (SprintOn / Motex 15000)

- New Model is conceived with unprecedented features with state-of-the art aesthetics and ergonomics.
- A machine with improved, lower energy consumption minimized waste and maximum Return on Investment.
- It is designed with holistic approach incorporating user's expectation of safety, functionality, operational efficiency, ease of operation & maintenance.

Salient features of InspirOn Stenter are

i. Higher drying efficiency
ii. High Squeezing Padder with delicate treatment comparatively which is expected for knitted fabric.
iii. Inbuilt or retrofit-able Heat Recovery Unit (HRU)
iv. Latest features of process automation and intelligence as per Industry 4.0
v. Higher productivity / energy efficiency – Reduction in, per passage cost sustainability

Safety requirement as per worldwide standard and User friendly operations