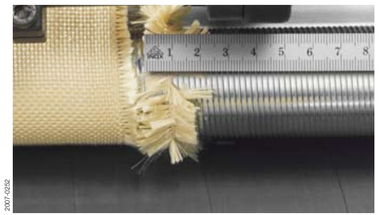
ACTIVE WASTAGE REDUCTION

ITEMA Air Jet Machines

The use of auxiliary selvedges is no longer a must! The high-efficiency stretch nozzle on air-jet weaving machines allows weaving without auxiliary selvedge on both sides. This eliminates waste, the need of auxiliary bobbins and other related operations.



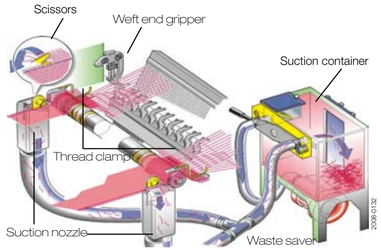
ITEMA Rapier Machines

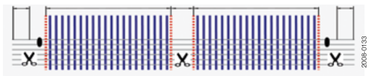
The same applies to rapier weaving machines and represents an important saving factor, greatly improving the net profit of the weaving room, especially when using costly yarns! Considering Aramid (left picture), the waste has been drastically reduced. The right picture shows a comparison of waste with standard weft brake and a special brake for heavy and expensive yarns.

ITEMA Projectile Machines

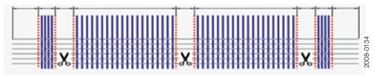
The Sultex projectile weaving machine, thanks to its unique weft insertion technology (Active Projectile System), weaves with zero waste in warp and weft. In case of leno selvedge, the application of the selvedge saver reduces the waste to an absolute minimum.

The maintenance of machines is a special concern as this is a major source of material wastage. Oil change frequency drastically cut (20.000 hours or 3 years) and maintenance-free devices are crucial factors to reduce the impact on the environment: recycling costs and procedures are no more an issue!





With waste saver



Without waste saver

E.C.O. ENVIRONMENT CARE OBLIGATION

SULTEX VAMATEX SOMET ITEMA weaving in motion

ITEMA is a leading producer of weaving machines with operations in Italy, Switzerland and China. Our experienced team develops and manufactures state of the art weaving machinery. All our products are sold and serviced worldwide. Our brand names Sultex, Somet and Vamatex are well known to anybody in the textile industry.

The EDOSnet web based ordering system manages your spare parts in an efficient way for all generations and types of ITEMA weaving machines. With EDOSnet you are online around the clock with ITEMA's modern and computerized spare parts distribution center in Switzerland.

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THE ITEMA E.C.O.

(ENVIRONMENT CARE OBLIGATION)

SULTEX VAMATEX SOMET ITEMA weaving in motion

ITEMA not only manufacture state of the art weaving machines, but also considers environmental issues to be of great importance. ITEMA actively contributes to reduce wastage of energy and resources. On the ITEMA weaving machines, consisting of the famous brands SULTEX, SOMET and VAMATEX, various Eco- oriented solutions have been successfully implemented.

ACTIVE ENERGY SAVING

ITEMA Rapier Machines

Only high efficiency motors are used, mainly brushless types. This technology ensures maximum efficiency compared to other technologies. The standard asynchronous motors do conform to the ISO-EN standards (EFF1). The Hi-Drive system used on the ITEMA rapier machines, based on the brushless motor technology and the simplification of the mechanical transmission chain, resulted in a reduction of power consumption of approx. 10%.

Optimization of the lubrication system greatly contributes to reduce the overall energy consumption because the minimal lubricant quantity and specific oiling points cut the friction between mechanical parts.

ITEMA Air Jet Machines

Talking of air jet weaving machines, 10 to 40% savings in air consumption is the consequence of Active Weft Control (AWC). The patented Real Time Controller (RTC) guarantees the shortest reaction and blowing times for an unrivalled, economical use of compressed air. Patented real-time monitoring of the weft yarn makes predictive control of the relay nozzles possible. The main and tandem nozzles ensure gentle acceleration of the weft yarn with minimal air consumption. The result is not only savings of precious energy, but also higher performance of the weaving machine due to lower air pressure and reduced blowing times; less stress on the yarn, thus, less yarn breaks – higher efficiency.

With RTC

Without RTC

RUECKW.SCHI.

SCHI.	LEIST	/STUNDE SCHUS	KETTF.	VERSCH	SCHUES. *1000	SCHICHTEROEFF. DAT.	UHRZ	ZEIT SCHI.
87.4%		1.6	0.3	0.7	51500	07-08-06	13:06	
D	100.0%	0.0	0.0	0.0	91	26-10-06	05:58	1:53:52
B	97.0%	1.0	0.0	0.2	371	25-10-06	21:55	7:55:16
C	92.0%	2.3	0.0	0.2	339	25-10-06	14:18	7:37:11
D	87.1%	1.9	0.0	2.9	101	25-10-06	05:45	2:23:59
A	89.5%	0.0	0.0	1.7	342	24-10-06	21:51	7:54:34
B	80.0%	0.6	0.0	1.3	302	24-10-06	13:55	7:49:07
C	80.0%	7.5	0.0	0.3	316	24-10-06	05:49	8:06:18
A	69.9%	1.5	3.7	0.0	132	23-10-06	21:51	3:54:32
B	38.9%	0.0	0.0	1.3	151	23-10-06	13:48	8:02:23
C	92.7%	1.6	0.2	1.1	357	23-10-06	05:58	7:57:47

DETAILS

2006-0135

Since the air consumption is drastically reduced, the necessary infrastructure to produce air can be adapted accordingly. See the tables below for the difference in air consumption and investment for air supply.

Air consumption	Competitor 1	Competitor 2	ITEMA RTC
Air Consumption [m3/ h]	105	90	58
Operational cost (air consumption) per year and machine [Euro]	7197	6168	3975

Investment for air supply	Competitor 1	Competitor 2	ITEMA RTC
Investment for compressors, etc. for 100 machines [Euro]	493056	358152	265032
Difference of investment per machine [Euro]	+2280	+931	0

Basis: 0.08 Cents per kWh and 8400 hrs. operation per annum

ITEMA Projectile Machine

The Sultex projectile weaving machines guarantees the lowest energy consumption per meter of weft inserted due to the unique weft insertion technology. The perfectly balanced sley assures very little RPM variation and thus, eliminates power peaks.

The newly designed oil cooler lowers the operating temperatures considerably. This results in longer oil change and maintenance intervals as well as lower maintenance cost.

The pick finding and creep speed motion are driven by the same motor and the gear box is idle during the running of the machine. Since there are no gears to be moved, the benefit is additional power savings.

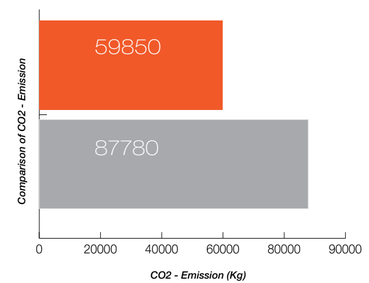
2004-0103

ACTIVE EMISSION CONTROL

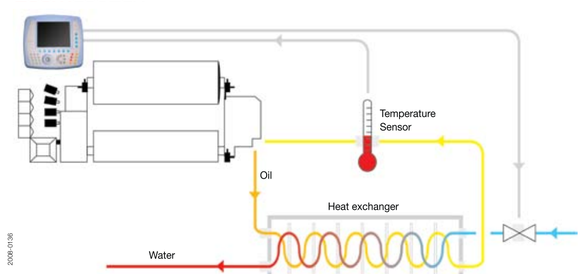
The LOOMCOOLER is an efficient system to recover part of the emitted power ensuring a dual advantage: lower energy consumption for the air conditioning system and partial use of the heat emitted by the weaving machine for different purposes (heating, steam production, sizing process, etc). Up to 30 % of the thermal power can be removed and re-used! The LOOMCOOLER can be fitted on all Somet and Vamatex weaving machines. A reduction in temperature of over 20° at the hot points prevents deterioration in yarn characteristics and improves the performance of the machines. The absence of high temperature machine parts improves working conditions for the weavers and the operators. Optimum running temperature of the low viscosity lubricant means better reliability and a longer working life for mechanical parts.

Due to the reduced air consumption on **ITEMA air jet machines**, a bi-product is a drastic reduction of CO2 emission.

Reduction of CO2 - Emission over 5 years



LOOMCOOLER



ITEMA Weaving Machines

With the accurate and careful balancing and reduction of the moving masses, which has been applied to the complete range of ITEMA weaving machines, we achieved an important (but sometimes undervalued) goal: noise emission and vibrations are kept to the minimum. This results in better working conditions, higher efficiency of the machines, no need of additional and often anti-ecological interventions on machinery and buildings.