

DIGITAL PRINTING



Gots certified inks used in all digital production.



Lower power consumption verses product output.



Ability to print on 100% cotton 100% polyester Polycotton

















DIGITAL PRINT HEADS

FUJ!FILM

Value from Innovation



FUJIFILM Dimatix is the world leader in the manufacture of drop-on-demand inkjet products and technologies with over 1,000 patents since its inception as Spectra Corporation in 1985. We provide exceptional products and customer support.

StarFire SG1024 1C Aqueous Printheads

PRINT SPEED: 2m/sec 7,200m/hr



Features:

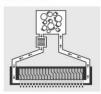
- Single-color operation
- Robust and repairable construction
- Drop sizes ranging from 6 to 200 picoliters

- Incorporates VersaDrop binary and grayscale jetting
- Continuous ink recirculation with RediJet
- Removable/replaceable collar mounted nozzle plate
- 1024 individually addressable jets

30% BETTER PERFORMANCE THAN COMPARABLE SYSTEMS CONSTANT TEMPERATURE AND INK CIRCULATION

The constant temperature control of the inks results in a constant viscosity, exact drop sizes, and controlled image build-up.

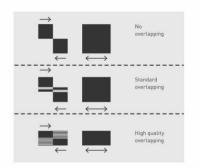
The ink circulation in all ink circuits ensures that the printheads are always ready



ADVANCED STROKE CONTROL

is a stepless (overlapping) pass control system, which calculates the drop placement according to the material and design while taking into account the drying times.

This allows streak-free images to be printed at up to 80% higher production speeds. No overlapping Standard overlapping High quality overlapping.



DUAL PRINTING

The Karajet enables parallel printing with up to two rolls on dimensionally stable fabrics.

The respective parameters for the fabric feed are stored in the media channel and can be accessed at any time.

Print jobs can be optimally distributed to the two print queues via the software control system.



Eco-friendly

Karajet offers a sustainable, flexible, and scalable solution for every application, even enabling waterless one-step production with the new Advanced Digital GOTS inks.



MATERIAL FEED FOR KNITTED FABRICS

KERAtex made in Spain

The karajet has an intelligent feed system for elastic knitted fabrics, which automatically adapts to the different textiles and roll circumferences. The respective dancer rollers, spreader rollers, center and batch winders can be selected and controlled via touch screen to ensure exact speed and tension up to the printing bed.

NEW DRYING TECHNOLOGY

The new dryer unit has up to two motorized, autonomous conveyor belts that allow tension-free material feed for knitted fabrics with up to 3 passages and for dimensionally stable fabrics with up to 5 passages for inline polymerization. The drying unit quickly reaches operating temperature and is impressively energy efficient.





With digital pretreatment, the KARAJET offers an innovative, flexible, sustainable, and cost-effective way to prepare textile materials on-demand for digital printing. Digital pretreatment is particularly valuable in small runs and fast-turn around jobs.

PRE TREATMENT

The first step in processing which uses singe and bleach method to smoothen the fabric by removing loose thread & dust thereto giving it a lustrous form.

A famous saying is that 'Well begun is half done', so unlike others who compromise on quality at this stage just to save a few pence, our company has gone the extra mile to select the best supplier that specializes in pretreatment machinery

SINGEING MACHINE:

The company has selected "**BEJIMAC**" brand of Belgium which has more than 100 years of experience under its belt and specializes in textile pretreatment machinery.

The Singeing Machine has **2 burners with angle** and width adjustment that ensure even surface of fabric. It's fitted with auto dozing & cleaning system which in turn helps in reducing the manual workload while saving on costly events like fabric damage due to human error.

Aside from the above, the machine has **IE4 grade motors** and a special filtration system which cleans the water for re-use in further processes. This means saving on energy cost while reusing of water helps preserve natural resources.

Facts

- Modular design
- Suitable for all types of woven fabrics
- Crease-free fabric transport
- Low water and energy consumption
- High productivity of up to 180 m/min

Country of Origin: Belgium

Max working width: 134"/3400mm

Min working with: 38"/965mm

Fabric: 80-350 GSM any type of weave

Speed: 10-180 meter/min

Production capacity: 200,000 per day



BLEACHING SOLUTION:

For bleaching, the company has chosen a long-established, trustworthy, and well-known brand, **Küster**, recognized globally for providing integrated technology for textile wet processing.

Integrated machinery assists in achieving high efficiency while IE4 motor fitted in the machine is useful to save on energy cost.



Facts (Kuster -Bleach)

- High productivity
- Best pre-treatment results
- 30% lower production costs

One-step bleaching system

- Continuous desizing, bleaching and drying
- Excellent pretreatment effects whiteness & absorbency
- High productivity
- Controlled chemical impregnation

• Country of Origin: Switzerland

• Max working width: 134"/3400mm

• Min working width: 38"/965mm

• Fabric: 80-350 GSM any type of weave

• Speed: 10-90 meter/min

• Production capacity: 100,000 meters per day

• **Dwelling Time:** 04-40 min

Eco-friendly

- Eco-friendly machinery which saves the resources by reutilizing them.
- Zero liquid discharge solution- recycling wastewater.
- IE4 technology reduced carbon emissions and optimization of overall energy use.

ENGRAVING

CST EXPOSING MACHINE:

Color Scanner Technology GmbH; more commonly known as CST, has been selected for rotary screen engraving machine. It's equipped with ultra-modern technology of DLE (Digital Light Engraver) which images and exposes the screen directly from computer-to-screen.





Directly imaging and exposing coated screens eliminates screen masking by wax, ink or film. Consumables are no longer needed. A Digital Mirror Device (DMD) modulates an ultrahigh power UV light source with image data using up to 2,000,000 micro mirrors. While the DMD moves over the screen in sequence, the data scrolls continuously and results in perfectly seamless image production. As each of the mirrors represents one pixel, high speeds are possible and the imaging quality is exceptionally high. Resolutions of up to 2,500 dpi are possible.

In short the machine makes screen production easier, faster, cheaper and of higher quality level while allowing various screen sizes to be obtained.

HIGH PRESSURE WATER STRIPPING MACHINE:

The purpose of water stripping machine is to strip emulsion from rotary screen so that it can last longer and minimize cost

Efficientx AquaJet from 'PMT Cleaning Technology GmbH' has been acquired to provide the company with non-hazardous, economical, chemical and hassle free rotary screen stripping

pressure pump and the passivized stainless steel stripping unit.

The high pressure pump is the heart of the AquaJet. The same is responsible for the constant water pressure of the 12 water jets. This leads to a minimum of wear & tear and assures a 24 hours per day continuous stripping without major down time. On the other hand, the Stripping Unit is made out of stainless steel and responsible for stripping the screens.



EFFICIENTx 40.30: High pressure water pump.

Maximum pressure: 3800 bar

Operating pressure: 2500 bar

Water flow rate: 3.1 L/min

Benefits:

- Fast stripping speed.
- Eco-friendly Screen Stripping.
- Significant life-time extension of rotary screens.
- Huge reduction in rotary screen cost.
- Withdrawal from hazardous chemical stripping.

PRINTING

Printing is a procedure of decorating textile fabrics by applying dyes, pigments, or other materials ultimately forming patterns. The process is carried after dyeing and prior to finishing in textile manufacturing.

The world's best industrial printing machine "EFI Reggiani UNICA" has been procured. It is the leader in rotary, panel and digital prints.

OVERVIEW:

I Analogical excellence

REGGIANI's big success is largely due to the rotary screen printing machine UNICA. More and more customers worldwide are printing woven and knitted fabrics, wide and narrow width, for household and fashion as well, with great satisfaction and profitability.

| Dust and Lint removal device

Reggiani supplies a system to remove dust and lints from the fabric to be printed, resulting from the Reggiani's knowhow. The new inverter allows the reduction of the torque and the modulation of the suction required.

I The new pneumatic glue application

Allows the perfect and continuous adjustment of the thickness of the glue on the fabric, reducing the maintenance job.

| Pumps

Pneumatic stainless steel pumps with different deliveries. The high quality of their components allow the use of colour pastes with different values of viscosity always assuring a perfect printing evenness.

I Rapid Pump washing:

This system, introduced on Reggiani machines to reduce dramatically the waste of time and water, allows the rapid washing of the colour feeding circuit (ducts, suction, delivery, colour pump) by means of established sequences of pressurized water ejections. The standard time execution is 30 seconds, the water consumption is max. 30 lt/colour.

I The new Blanket washing system

Reduces considerably the water consumption. Two brushes, one for each tank, work with variable speed to optimise the blanket cleaning. Four rubber squeegees (the last one adjustable as well) clean and dry perfectly the blanket. The two brushes are equipped with inverter that allows the reduction of the torque and the adjustment of the brushes rotation speed according to the printing speed.

Multi-repeat printing heads

Blade squeegee: 180 cm, repeat 640

Washing-on-line system: (wol: optional)

Eco-friendly

- Eco-friendly machinery which saves the resources by reutilizing them.
- Zero liquid discharge solution- recycling wastewater.
- IE4 technology reduced carbon emissions and optimization of overall energy use.





Rotary Printing:

Rotary bulk printing machine "UNICA"

Printing width: up to "128"/3250mm

Number of installed colors: 15

Printing repeats: 640 mm – 914 mm

Speed: 4 – 90 m/min
Can print: around 60,000 meters per day.

Strike of Printing Table:

Rotary sampling printing machine "UNISTAR"

Printing width: up to "128"/3250mm

Printing repeats: 640 mm – 914 mm

Blanket length: 20 meters

Printing table length: 10 meter.

CURING/AGEING MACHINE:

Curing is an important process after screen-printing. It's the chemical bonding process that happen when the ink is heated to a certain temperature so that pigment bonds well with the fabric while the water evaporates.

Keeping the importance of this process in mind, PENTEK, an Italian brand, has been selected for the provision of curing machine. The machine is fitted with dual heating system for proper fixation of pigment while large heating chambers allow for maximum curing/ageing in the shortest time possible. There is a 15cm distance among rods so that hot air circulates properly. Laser reader are affixed at exit gate for fabric management

Country of Origin: Italy

• Working width: 134"/3400mm

• Cloth content capacity: 260 meters

• Loop length: 240 cm

• Temperature: 102°C - 185°C

Rollers / rods with silicone strips

Eco-friendly

- Eco-friendly machinery which saves the resources by reutilizing them.
- Zero liquid discharge solution- recycling wastewater.
- IE4 technology reduced carbon emissions and optimization of overall energy use.



FINISHING

STENTER:

ELTEKSMAK, a well-known supplier from Turkey will be supplying finishing stenter to the company. Based on European technology, the machine is fitted with 8 chambers along with circulation fans to ensure that each chambers' temperature can be controlled.

Finishing stenter will be fitted with "BIANCO" brand weft straightener whose primary function is to control fabric bowing & skewing. IE4 grade motors will be installed in the machinery for maximum energy saving.





POLTEKS CALENDER:

Calendering of textiles is a finishing process used to smooth, coat, or thin a material. With textiles, fabric is passed between calender rollers at high temperatures and pressures.

POLTEKS, a well-known supplier from Turkey has been selected for the provision of calender machine and would be fitted with 3 rollers so as to give the best hand feel. The machine would be fitted with IE4 grade motors for attaining maximum energy efficiency.

Country of origin: Turkey

Working width: 126" / 3200 mm

Speed: 90m/min

Linear pressure: 300 kg/cm

Includes the selvedge shifting system.

Eco-friendly

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- Zero liquid discharge solution- recycling wastewater.
- IE4 technology reduced carbon emissions and optimization of overall energy use.



RAISING / BRUSHING:

Raising is a finishing process that raises the surface fibers of a fabric by means of passage over rapidly revolving cylinders covered with metal points or teasel burrs. Outing, flannel, and wool broadcloth derive their downy appearance from this finishing process.

The newest, fourth generation machine from China has been selected for raising. The machine has 36 rollers and can either be controlled via man-machine conversation or programmable logic controller (PLC).

It can be adjusted variably by inverters and is suitable for surface raising of cotton fabrics, coral fleece, stand velvet, open width knitting fabrics and micro suede fabrics etc. Drum speed, fabric speed, fabric tension & speed of raising rollers can be adjusted variably as per processing requirements of different

• Working width: 122"/3100 mm

fabrics.

• **Roller width:** 128"/3250 mm

• Fabric Speed: 10 – 40 m/min

• **Drum Speed:** 10 – 40 m/min

• Roller diameter: 70 mm

• Roller Quantity: 36 PCS

Benefits:

- Easy to use
- Reduced maintenance
- High power of operation
- Low energy consumption
- High quality of the fabric

PRE SHRINK

SANFORIZING:

FERRARO S.P.A, a name known in the textile world for providing reliable 'Finishing Machines' has been chosen for procurement of senforizing machine.

The machine so acquired will be equipped with '**DUNLINE**' rubber belt having a thickness of 67mm and a hardness degree of 38sh. For attaining energy efficiency, the machine would be fitted with IE4 grade motors.

Eco-friendly

- Eco-friendly machinery which saves the resources by reutilizing them.
- Zero liquid discharge solution- recycling wastewater.
- IE4 technology reduced carbon emissions and optimization of overall energy use.

Country of Origin: Italy

Working width: 126"/3200 mm

Shrinkage setting: up to 13%

Speed: • 50m/min

Water consumption: 5m3/hr





DYEING

ELTEKSMAK IR DYEING STENTERS:

Maheen Textile Mills (Pvt) Ltd is importing Stenter machines from 'Elteksmak Machinery', who specialize in textile finishing & drying technology and have them headquarter in Turkey. Established in 1994, 'Elteksmak Machinery' has made a name for itself all around the world and has been awarded 'European Union Quality Award' for their exemplary European standards for quality and innovation.

Elteksmak Stenter machine guarantees convection of the hot air to every single point on fabric body by help of quadral motor-nozzle structure, cross layout cabins and special variable nozzle blow system and correspondingly guarantees the maximum stability on drying/heat-setting process.

Individual width control mechanism is used for every single cabin with width control shafts placed at the top of the cabins and as a result maintenance and repair times and costs are minimized. Erosive effects of the heat inside the cabin on the metal structure is eliminated. Instead of conventional manual opening doors, lift type, pneumatic controlled sliding doors are used.

The IR dyeing stenters will be fitted with "BIANCO" brand weft straightener whose primary function is to control fabric bowing & skewing.

The most up-to-date model of Küster brand padder is part of the machine ensuring finest dyeing results. The padder's ability to control deflection in the middle and sides of the working width makes it a perfect choice. The stenter also include two natural gas chambers for IR dyeing where temperature ranges from 700°C to 1100°C, giving the best fixation of dyeing / chemicals. For energy saving, IE4 motors/Invertors have specifically been installed in the machines above.

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Max working width:126"/3200 mmMin working width:37.5"/950mmFabric dyeing:80-350 GSMSpeed:100m/min

Country of Origin: Switzerland

Chambers: 8 thermal oil heated

Bianco weft straightener

Speed: 100 m/mir

Production: 60,000m/per day

Eco-friendly

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QUALITY CONTROL, R & D LAB.

Quality control and research & development lab is considered as the backbone of any fabric processing unit. Acting as a services' department, the main job is to ensure quality of a service or product. The importance of such a lab could be understood from the fact that it helps a company to more efficiently navigate manufacturing and production processes to cut down on mistakes and waste, and maximize profit.

Maheen Textile Mills (Pvt) Ltd is focused on building a state of the art quality control and research & development lab that would be equipped with the latest textile testing instruments from world renowned brands like

James Heal | Testex | Q.C Haida.







GARMENT WASHING

LAUNDRY MACHINES:

Washing process is undertaken to modify the appearance, ability and comfort of the garments while removing dirt, oil stains and any spots that accumulated during manufacturing process. It also removes chemicals and starch that is applied during fabric manufacturing.

KARMAK, a leading manufacturer from Turkey has been chosen for the supply of garment washing, extracting and drying machines. Established in the late 90s, the supplier has more than 33 years' experience and provides cutting-edge technology to its customers all around the world.

The machines selected have lower liquor ratio compared to conventional machines, thus saving of water and electricity is possible.



Washing Capabilities:

- Enzyme Wash
- Hydrophilic Wash
- Silicone Wash
- Stone Wash

Technical Features:

Maximum load: 300 kg/run Each Machine

Liquor ratio: Min 1:6 – Max 1:10

Energy efficient/cost effective process & motors.

Wash Capacity: 20,000 Kg's/day.



ENVIRONMENT SUSTAINABILITY

ETP:

Textile industry involves wide range of raw materials, machineries and processes to engineer the required shape and properties of the final product. Waste stream generated in this industry is essentially based on water-based effluent generated in the various activities of wet processing of textiles. The main cause of generation of this effluent is the use of huge volume of water either in the actual chemical processing or during re-processing in preparatory, dyeing, printing and finishing. In fact, in a practical estimate, it has been found that 45% material in preparatory processing, 33% in dyeing and 22% are re-processed in finishing. But where is the real problem? The fact is that the effluent generated in different steps is well beyond the standard and thus it is highly polluted and dangerous and cannot be disposed to the environment.

This is where an effluent treatment plant (ETP) comes into play. This is simply a procedure put in place to purify wastewater in order to recycle it or dispose of it safely. The company has decided to install best energy & cost effective effluent treatment plant with 120 cubic meter/hours capacity for environment sustainability.



Our selection

Company has selected 120 cubic meters per hour capacity activated sludge process with moving bed biofilm reactor (MBBR) installed as a retrofit of existing process to increase its capacity and therefore achieving ZDHC/Detox requirements'.

RO (REVERSE OSMOSIS SYSTEM):

Soft water is essential to carry out many important industrial operations, whether it is boiler feed or fabric's washing. Underground water is generally hard and sometimes contaminated too and can't therefore be used directly for different operations in textile industry. As industries depend on underground water a lot therefore Reverse-Osmosis (RO) system is used. It's a water treatment system that allows pure water for consumption, manufacturing, and disposal methods.

In the reverse osmosis process, cellophane-like membrane separates purified water from contaminated water. The process removes hardness, microorganism, salts and impurities from the water in order to improve the color, odor, taste or properties of the fluid.

Company has plans to install RO plant with 100 cubic per hour capacity to meet its ever increasing need at processing unit. This will also provide company

employees with access to clean drinking water.

Our selection

We select 100 cubic meter/hours capacity soft water/RO plant.

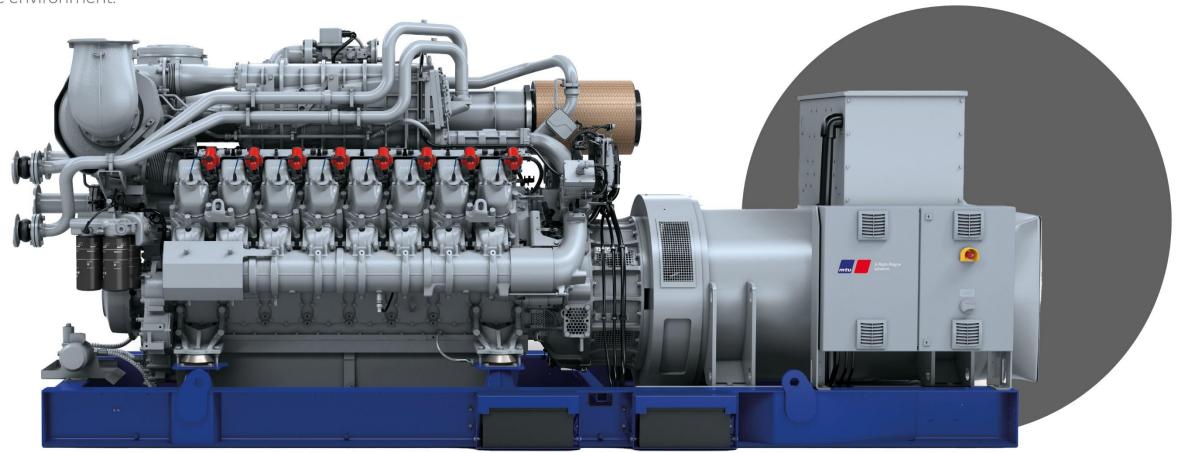




GENSET:

In textile manufacturing, uninterrupted power supply is essential as its outage can cause significant operational and financial loss. The company, bearing this in mind, has chosen one of the world's best onsite power generators from MTU-The business unit power system of Rolls-Royce, a name which needs no introduction in the field of reliable engines & machinery.

The clean and technologically-advanced generator focuses on maximizing efficiency and reduces emissions - which in turn works to reduce the impact on the environment.



Performance:

Industry-leading 85% load factor for standby applications & 75% load factor for prime power applications.

Superior onsite specific de-rating behavior due to state-of-the-art engine controller with engine site condition management system.

Unrivalled transient performance, all generator sets are tested according to performance class **G3** as per ISO 8528-5; 100% load acceptance according to NFPA 110.

Tested Quality:

Designed & manufactured in facilities certified to standards ISO 9001:2015 & ISO 14001:2015.

- I Designed, assembled & tested completely in-house.
- I More than 100 years of engine engineering expertise.
- I Proven performance under extreme conditions.

Economical:

- I Outstanding fuel economy.
- I Optimized maintenance intervals.
- I Cutting-edge emission control solution.

Reliability:

Tested & optimized to run smoothly with a minimal amount of vibration for use in demanding environments.

I Advanced monitoring & communications.

BOILER SECTION

STEAM BOILER:

In textile production, steam boiler is a necessary heat source equipment, mainly used for dyeing, drying, sizing, printing and other technological processes. Textile enterprises are mostly larger in scale and have high requirements for steam quality and high demand for steam per unit time. Therefore, for this kind of project, energy-saving, low cost boiler is the first choice.

10 TPH coal fired steam boiler from China has been imported which is equipped with state-of-the-art equipment for better performance and is also environment friendly. Using modern technology, the boiler solves the problem of tube plate flaw, water wall tube explosion, low efficiency, insufficient output, poor adaptability of coal and improves the heat transfer.



OIL HEATER:

Thermal oil heating systems operate in a closed-loop with the thermal oil in constant circulation. This continuous circulation at a constant supply temperature provides a heat source that users can access as needed. Users can be controlled individually, and thermal oil temperature can be varied (user to user) through secondary control loops.

O5 MkCal coal fired thermal oil heater has been imported from China which is also equipped with waste heat recovery steam boiler. Using most up-to-date machinery, it requires minimal maintenance and also has low operating cost.



OUR EXISTING CERTIFICATION AND MEMBERSHIPS

The company is pleased to share certificates & memberships obtained from various certifying organizations, showcasing its continued commitment towards environmental and social sustainability.

ENVIRONMENTAL SUSTAINABLE CERTIFICICATION



Standard















SYSTEM AND PRODUCT CERTIFICICATION



SOCIAL CERTIFICATE & ETI

