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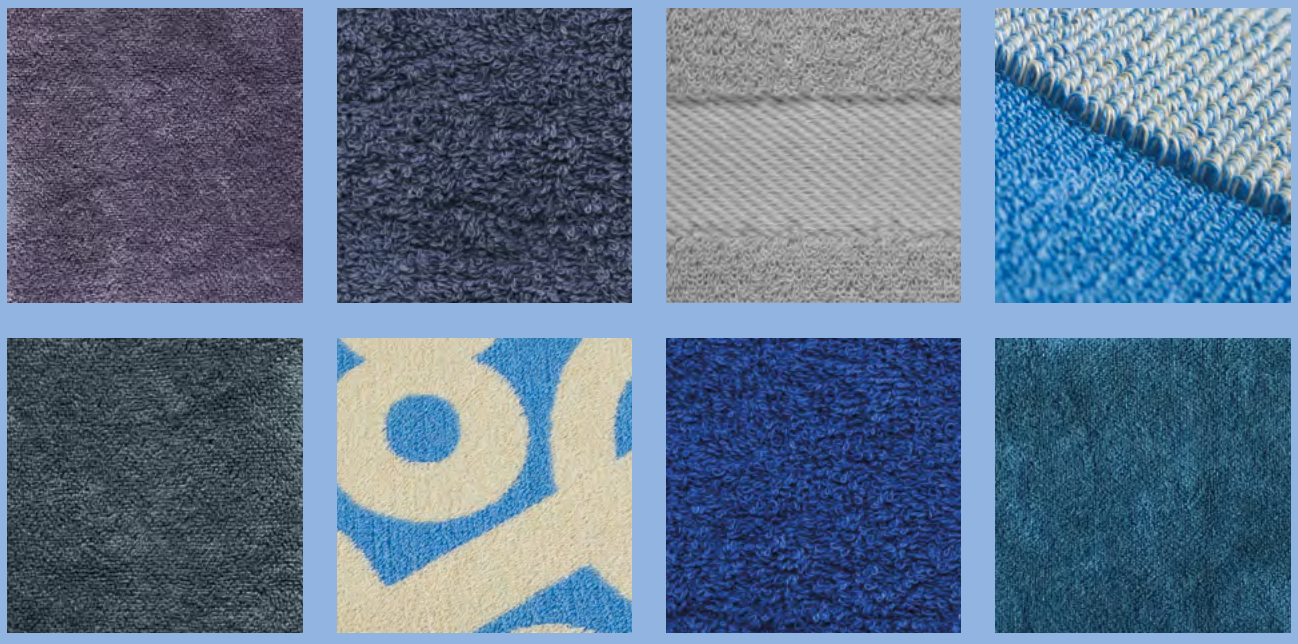
GROUP

SMIT GS980F

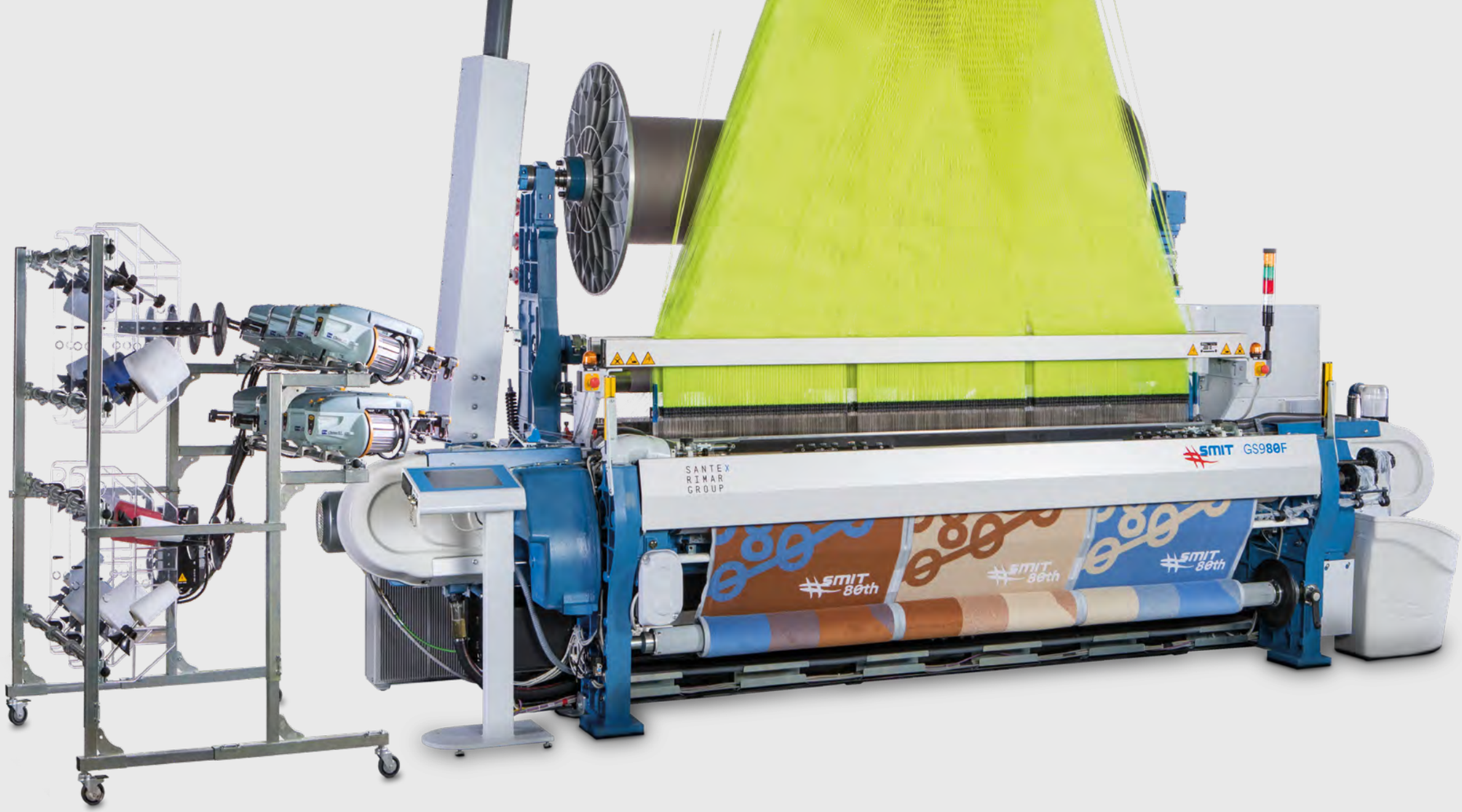


ONE PROVIDER · THOUSANDS SOLUTIONS

SMIT GS980F

The fastest
free flight
rapier machine

Designed
and exclusively
Made in Italy



SMIT GS980 F ultimate inventions improve productivity in terms of **speed** combined with **efficiency** and **versatility** for the widest range of production.

SMIT GS980 F ensures top-quality, exclusively patterned **terry towel fabrics**: from heavy velours to matched towels and bulk terry production.

The free flight ribbons system marks out SMIT weaving machine since many years: smart and flexible, SMIT GS980 F is conceived in Italy combining some of the most reliable SMIT features with groundbreaking function solutions to make **SMIT GS980 F** an asset that **will keep its value for a long time.**

High flexibility, excellent fabric quality, quick set-up, ergonomics, ease of use and maintenance elements that have always distinguished Smit machines, have been further improved for SMIT GS980F.

SMIT GS980 F
has improved in terms of:

Versatility

SMIT GS980 F ensures cost-effective weaving of a wide variety of terry fabrics with outstanding performances.
With seven different working widths, from 220 to 360 cm, SMIT GS980F is ideal for weaving terry fabrics, in one or several panels.

Production Quality

SMIT GS980 F features ensure the most advantageous weaving settings to produce high quality terry fabrics for any target sector widening weavers' creativity and market opportunities.

Performance

SMIT GS980F excels in terms of performance: rugged structure and stiff drive mechanisms ensure high productivity and operational stability both in Dobby and Jacquard arrangements.

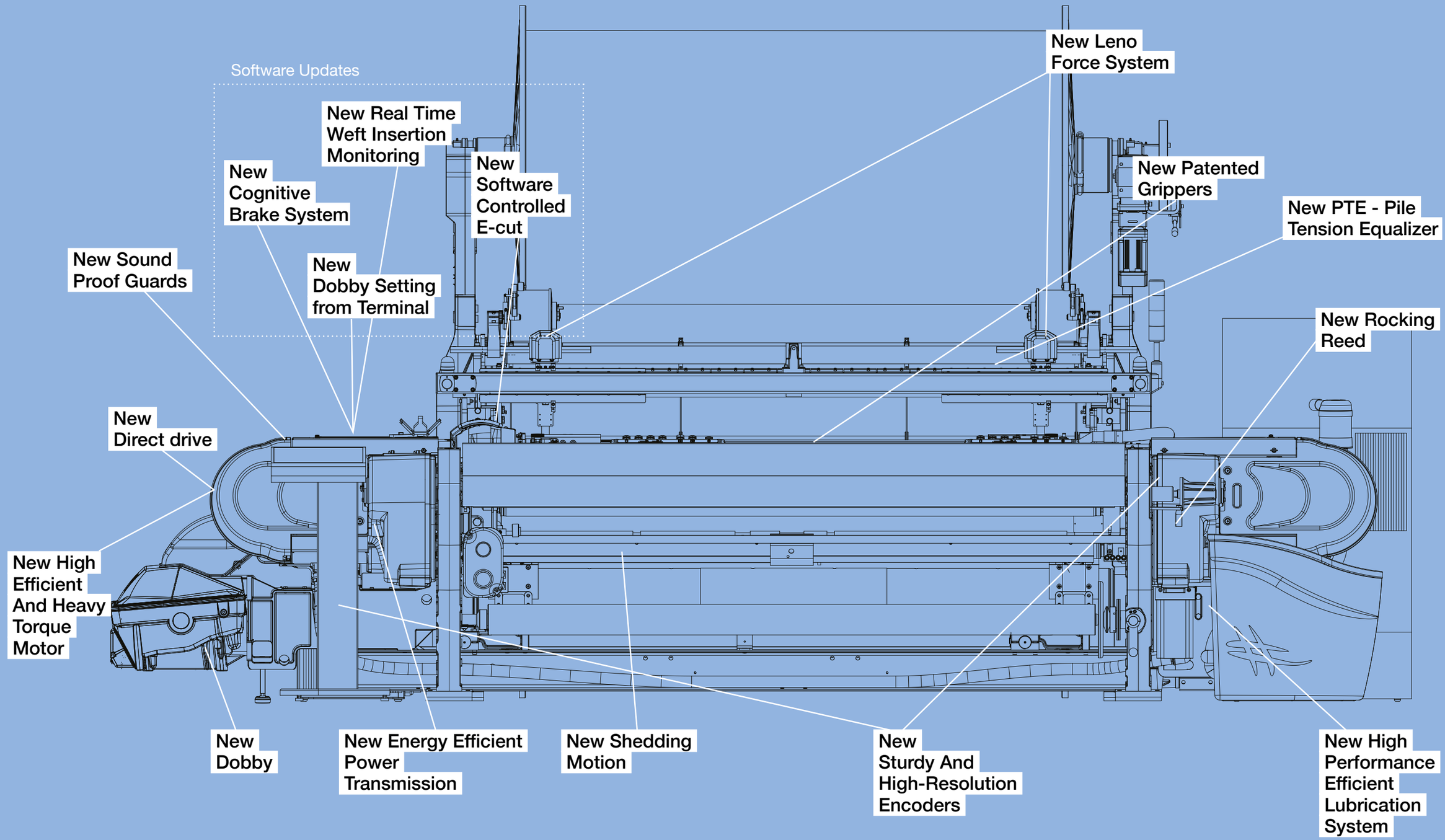
Efficiency

SMIT GS980F fast set-up and change solutions enable to reach the highest weaving hall efficiency.

Sustainability

SMIT GS980F energy and environmental performances are certified.

SMIT GS9**80**F What's New




SANTEX
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SMIT GS980F
SMIT 80th
SMIT 80th
SMIT 80th

Versatility

01.

New Rocking Reed

SMIT GS980F further enhances the greatest functional advantages of Smit terry weaving technology, to achieve top results in terms of pile regularity, pile height evenness and performance of the machine.
Dynamic Pile Control is the distinguishing Smit system of pile formation by sley deferred motion (**Rocking reed**), with loose pick distance up to 24 mm, securing the gentlest treatment of warp yarns for a first-rate terry fabric.

The innovative **Dynamic Pile Control**, once programmed on loom terminal or jacquard memory, allows to switch from one pick ratio to another while machine is running to **create unique relief patterns and effects like pile waveforms.**

02.

New Leno Force System

(for Dobby version)

New SMIT GS980 F programmable Leno-Force System allows to program the false selvedge and leno yarn crossing, pick-by pick, independently for each side which means:

- Quick adaptation to the most varied types of yarns filled in the different parts of the towel (terry cloth, border)
- Maximum effectiveness in the control of the weft stretching and weft tail reduction, ensured at the highest operational speed
- Higher tension in the fast selvedge and more precise opening of the shedshed

03.

New Patented Grippers and Supporting Teeth

- Reduced grippers cross section shaped in accordance with the warp shed geometry to benefit of very low pile warp tension
- Great versatility for every type of yarn
- Rapier sliding supporting teeth, specific for terry fabrics ensure easy settings and self-cleaning warp shed

04.

New Software Controlled E-Cut

New SMIT GS980 F software-controlled E-cut ensures optimal cutting conditions and top performance even when terry towels, mostly in the border, require the insertion of several types of weft different in terms of count and fiber, from mercerized cotton to multifilament (bright Rayon) or Fancy Yarns and Chenille.

05.

Electronic Weft Selector

(Ews)

The modular and expandable Electronic Weft Selector for 4-8-12 weft channels, with converging presentation fingers, ensures optimal weft distinction, also when very different types and counts of weft are used respectively for the terrycloth and the border of the towel.

06.

Wide Range of Warping Solutions

The ground warp beam, up to 1000 mm in diameter, and the overhead pile warp beam, up to 1250 mm, Euronorm solutions and quick beam change systems are available upon request.

Performance

01.

New
High Efficient and Heavy Torque Motor

New SMIT GS980 F high efficient and heavy torque motor motion is improved with optimal acceleration, high speed and less vibrations.

02.

New **High Performance Jacquard Drive**
(for Jacquard version)

The new sturdy and high torque drive for Jacquard ensures the top running regularity and speed, also in combination with the largest Jumbo Jacquard machines.

03.

New
Dobby
(for Dobby version)

Shed motion is ensured by the new electronic dobby (up to 20 shafts).
New dobby guarantees better performances: weaving with SMIT GS980 F is faster and smoother.
Higher performance with minimum maintenance.

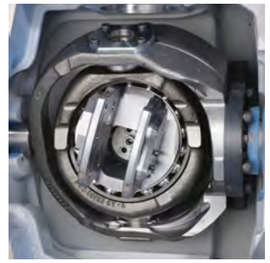
04.

New
Shedding Motion
(for Dobby version)

The new dobby drive with increased transmission capacity and the new shedding motion, optimized in combination with the latest dobby model, ensure minimal vibrations of heald frames, with increased warp efficiency ay top speed.

05.

Rapier Drive and Optimized Distribution of the Mechanism Masses



The Rapier Drive, carried out by a “spherical crankshaft” and one gear stage, ensures minimum weft cutting, transfer and release speed, with the highest regularity in weft insertion.

The sturdy machine structure and the optimized distribution of the mechanism masses ensure the greatest stability and the most effective reduction of dynamic load on the floor.

06.

New
Sturdy and High-Resolution Encoders

SMIT GS980 F is equipped with two sturdy magnetic encoders to control the crossing position of the shed in relation to the beating up point.

SMIT GS980 F new high-resolution encoders are less sensitive to loom vibrations, dirt, oil and water, are more reliable and need very low maintenance.

07.

New
Sounds Proofs Guards

New crankcase to cover the moving parts of the machine for operator safety are made of polymeric materials to reduce the noise.

Production Quality

01.

Pile Tension Control System

SMIT GS980F offers the greatest functional advantages of the Pile Tension Control System for the pile warp yarns, especially designed to achieve:

- Top evenness of pile height
- Light rocking cylinder and supports that grant minimal and regular pile warp tension for the most delicate yarns
- Pile warp path optimized to ensure high accessibility to warp stop motion
- High stiffness and precision of warp tensioning
- High sensitivity of tension detectors and pile warp let-off control
- Interactive utilities between pile tension control system and the machine main control terminal, for optimal “self-learning” set-up of textile parameters
- High productivity of the loom

02.

New

PTE - Pile Tension Equalizer

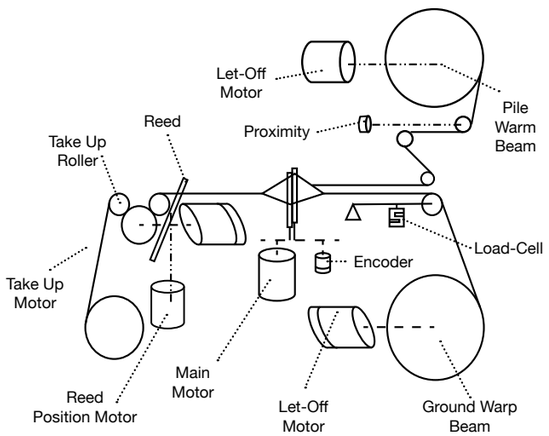
The new PTE - Pile Tension Equalizer system, ensures the gentlest treatment of warp yarns, for a first-rate terry quality, guaranteeing the highest performances also with single-ply and low torsion pile yarn, for the most soft, absorbent and luxurious terry fabrics.

The gentlest treatment of the pile yarn grants high loom productivity and perfectly evened pile also in presence of not necessarily strong staple yarns to achieve significant savings on the row material cost.

03.

Warp Let-Off, Electronic Take-Up and Main Direct Drive, simultaneously Controlled

Warp let-off, electronic take-up, pile formation drive and main direct drive, simultaneously controlled ensure maximum accuracy in the electronic warp control and excellent and stable fabric quality for whatever yarn count and type of pattern.



04.

Optimized Textile Geometries and Warp Control by High Precision Load Cell

Precision of the electronic let-off motion, stability and repeatability of the warp tension parameters are granted by high accuracy load cell with “self-learning utilities” which ensure excellent fabric quality with whatever count and type of yarn and steady terry fabric weight, from full to empty beam.

05.

New

Direct Drive

Thanks to the new direct drive and the short kinematic arrangement, higher regularity is achieved with the lowest vibration and noise level.

Features:

- High performance permanent magnet motor with feedback by resolver for high response
- Speed control by terminal
- Nor clutch, neither brake
- Slow-motion and pick finding by main drive. The slow-motion clutch and auxiliary drive are not more necessary

Electronic speed control without frequency converter:

- High “power factor”
- Low energy consumption
- Low heat generation (no auxiliary cooling device required)
- Control of weaving speed at start and stop phases within one beat-up cycle
- Full stop control in case of black-out (no defects on the cloth)

Advantages:

- High fabric quality
- Low energy consumption
- Reduced air conditioning cooling load
- Low maintenance
- User friendly speed setup and programming
- High speed stability and low vibrations

Efficiency

01.

New Dobby and Jacquard Setting From Terminal

The new functionality of shed-crossing phase setting from touch screen terminal shortens considerably the set-up and start-up time in combination with both dobby and jacquard.

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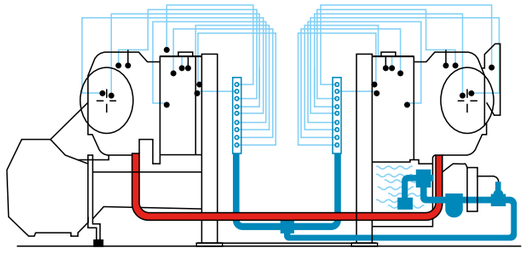
02. ## *New* High Performance Lubrication System

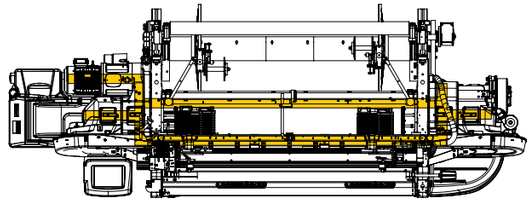


SMIT GS980 is excellently reliable thanks to continuous lubrication and oil filtering.

The new efficient lubrication system, with forced oil circulation, guarantees the lowest energy dissipation in the mechanisms, avoiding the adoption of additional oil cooling systems. Extended lubricant life time reduces maintenance costs.

03.

New Energy Efficient Power Transmission



The new Energy efficient power transmission ensures the highest regularity and the lowest energy consumption, also in combination with Jacquard.

04.

Fast Change Operations

Fast set-up and style change solutions enable to reach the highest weaving hall efficiency:

- Fast working width (symmetrical or asymmetrical) changes as no ribbon hooks are requested.
- Buttons keyboards opportunely located to ensure efficient weaver operations
- Quick fastening of soundproof guards to ensure high protection and ease of access to the regulating parts.
- Easy removal of the rocking cylinders to effectively arrange the pile warp on the clamping rails of warp tying frame

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05. ## Long-Lasting Rapier Drive Components

The Free Flight Ribbons System solution ensures the most effective reduction of power consumption and ribbons are longer granted by the friction-free movement.

READY for INDUSTRY 4.0

07.

Electronic Platform and Touch Screen

Easy control of technical parameters. Simplified maintenance by the modular arrangement of both cabinet and machine wiring system. Multilingual user-friendly touch screen.

Sustainability

01.

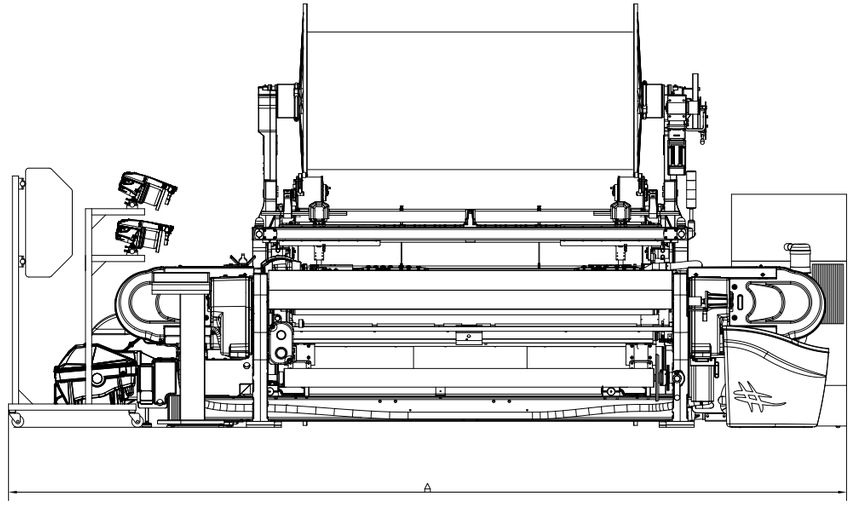
Green Certified

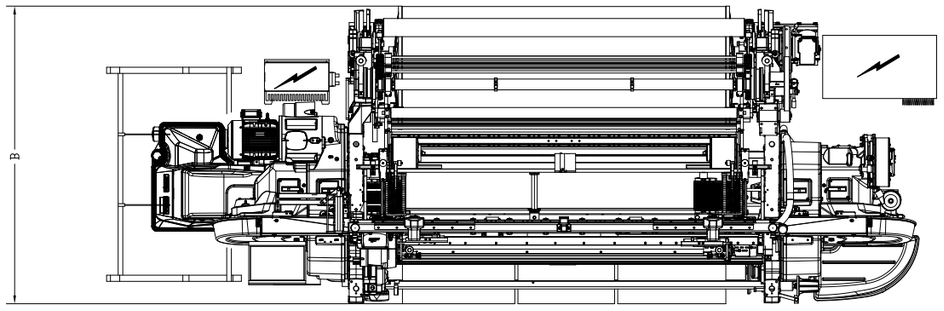
GREEN CERTIFIED

Smit is an Italian textile machinery manufacturer registered as Supplier of Sustainable Technologies.

SMIT GS980 F comes with ACIMIT Green Label certification that aims to identify energy and environmental performances of the machine.

Technical Data





GS980	2200	2400	2600	2900	3200	3400	3600
A	5390	5590	5790	6190	6590	6790	6990
B-Beam 800	1955	1955	1955	1955	1955	1955	1955
B-Beam 1000	2150	2150	2150	2150	2150	2150	2150

PERFORMANCE

Up to 1550 m/min

SPEED*

Loom width	260 cm	360 cm
Speed	500 rpm	430 rpm

YARN RANGE

Spun yarns: 4 Tex – 400 Tex (Ne 150 ÷ 1,5)

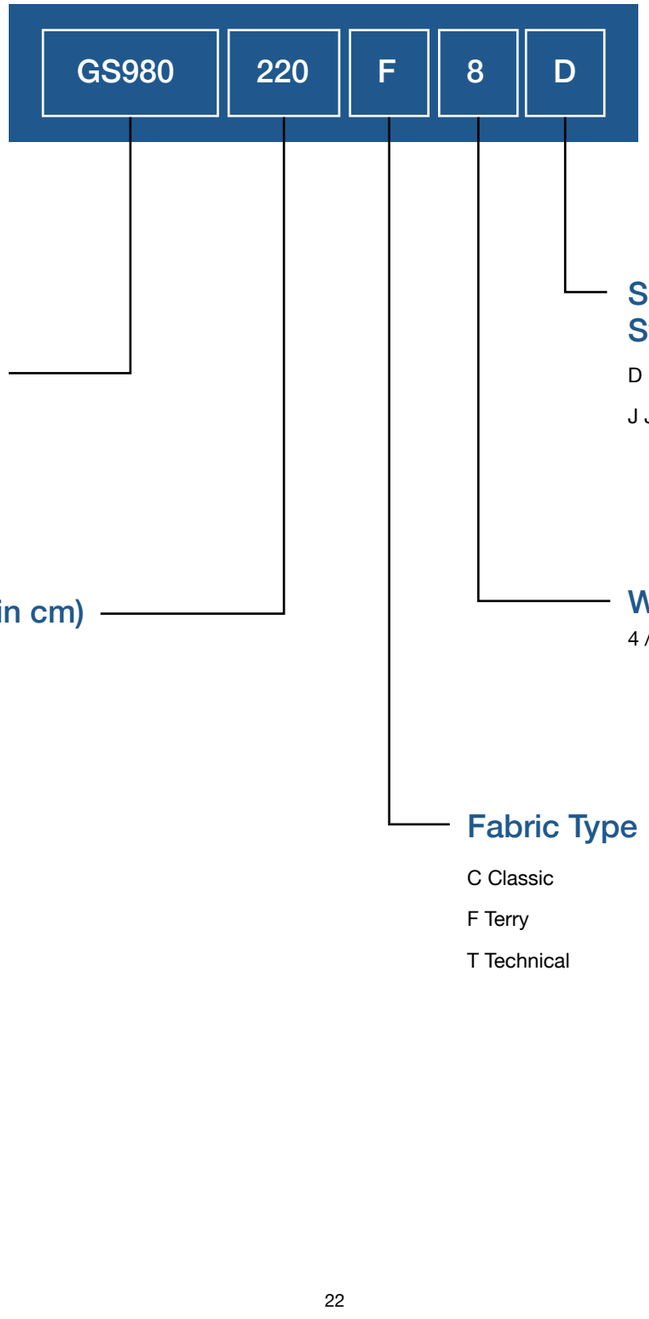
Filament yarns: 10 Den – 3500 Den
(11 dTex ÷ 400 Tex)

Fancy yarn (for border): slub, bouclè,
twisted, brushed up to 2 Nm (500 Tex)

*Free flying technology

*Mechanical speed. Weaving speed and weft insertion rate are influenced by the type of fabrics, yarn quality, yarn count and shedding motion.
For textile technical reason, reductions in speed may be required.

Loom Codifications



Loom Model

GS980

Reed Width (in cm)

220
240
260
290
320
340
360

Shedding System

D Dobby

J Jacquard

Weft Colors

4 / 8 / 12

Fabric Type

C Classic

F Terry

T Technical

Reed widths

- 220 - 360 (Free Flying)

Width reduction

- 80 - 100 depending on the reed width

Performance

- Up to 1550 m/min depending on style and machine width

Yarn range

- Spun yarns:
  4 Tex – 400 Tex
  (Ne 150 ÷ 1,5)
- Filament yarns:
  10 Den – 3500 Den
  (11 dTex ÷ 400 Tex)
- Fancy yarn (for border):
  slub, bouclè, twisted, brushed up to 2 Nm
  (500 Tex)

Shed geometry

- Optimized warp shed angle and geometry both for pile and ground
- Gripper tip position closer to the reed, far from cloth fell

Filling selection

- 1 – 12 colors electronically controlled

Filling monitor

- Piezo electric detector with double pick prevention

Filling cutter

- Mechanical cutter
- Electronic Weft Disk Cutter EWC-A,
- Programmable Motorized Weft Cutter E-CUT

Insertions

- Prewinder switch-off
- Pneumatic feeder threading up
- Active filling brake

Ribbon motion

- One gear stage

Reed motion

- Positive conjugated cam outside fabric area

Pile formation

- Pile formation by “rocking reed”
- Pile height up to 12 mm

Shed Control

- 3020 electronic dobby upto 20 frames (VR, DRC4, DRC10)
- Electronic jacquard
- Electronic setting of the crossing moment

Selvedge formation

- Indipendent Lenomat
- Tucked selvedge (mechanical)
- Central selvedge

Let-off motion

- Load-cell electronically controlled lower warp let-off system
- Proximity sensor electronically controlled upper warp let-off system

Warp beam

- Lower beam diameter:
  800, 1000
- Upper beam diameter:
  800, 1000, 1250

Back-rest

- Single roller with breaking system
- Deviation cylinder

Warp stop motion

- 2+2 bars
- Sectional warp stop motion

Cloth take-up

- Electronically controlled take-up system
- Batching motion unit
- Fabric illumination

Cloth roller

- 600 mm

Machine drive

- Direct machine drive (DD)
- I-torque motor (optional for big sized jacquard)

Pick-finding

- Automatic full pick-finding

Machine controls

- Color touch-screen (USB and ethernet connection)
- Push buttons on front panel

Lubrication

- By forced circulation of filtered oil

Monitoring

- Stop-distribution reporting
- Connection provided for major weaving room monitoring systems

Automation

- Quick Style Change (beam, harness, reed and warp stop motion)

Safety

- Light curtain, protection guards

Regulations

- CE Mark

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