

# SL 2.3

## SINKERLESS

SINGLE JERSEY FOUR TRACKS



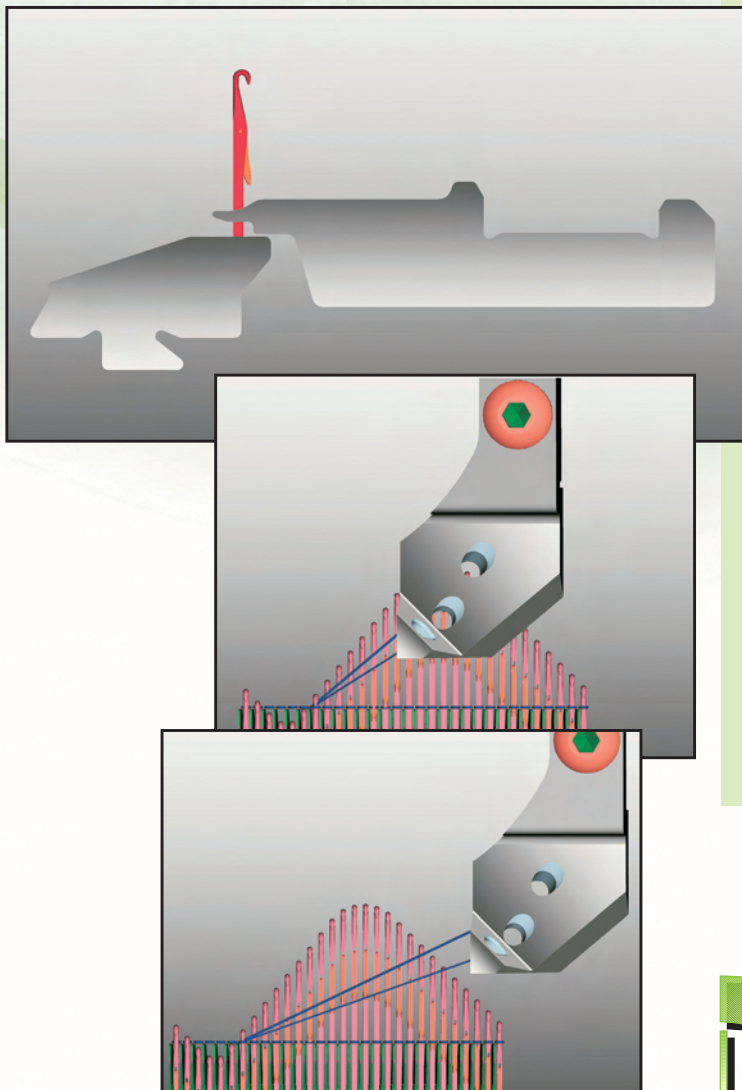
## Single Jersey New Generation

### HIGH QUALITY

NO MORE VERTICAL LINES  
NO MORE ELASTANE MISPLATING  
NO MORE FABRIC PEELING  
IDEAL SOLUTION FOR FINE GAUGES

### HIGH PRODUCTIVITY

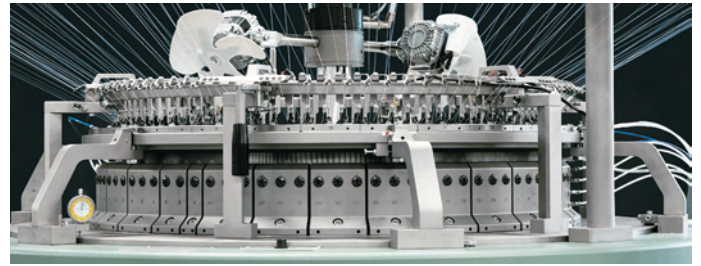
EASY IN PICKING UP DROPPED-OFF FABRIC  
NO MORE MAINTENANCE NEEDED  
GREAT ENERGY SAVING



# SL 2.3

## SINGLE JERSEY FOUR TRACKS

### SINKERLESS



#### No more vertical lines

In traditional single jersey machines the stitch is constructed with the help of the sinkers. This process may cause one of the most frequent defects in knitted fabrics: vertical lines. The sinkers are parts that move horizontally and vertically and the stitch is formed on them. In the sinkerless machine the stitch is formed in a stationary point of the cylinder and consequently we obtain a superior uniformity of the stitch and a total absence of vertical lines.

#### No more elastane misplating defects

In the traditional machines with the sinkers, in most cases in order to find the perfect position of the cotton, viscose yarn relative to the elastane yarn one has to find the optimal position of the sinker ring and the yarn guide. In the SL 2.3 (sinkerless) machine the point of stitch formation is well designed and entirely stationary. This feature coupled with the appropriate yarn guide guarantees a perfect stability in the position of the cotton and the elastane yarns avoiding thus misplating. In such a case the fabric control operation becomes redundant.

#### No more fabric peeling

Special reference is made to the very fine gauge traditional machine with sinkers using microfibre yarns, where the yarns and the produced fabrics rub on the sinkers that slide radially creating friction that damages the fabric and ultimately causes peeling. In the SL 2.3 (sinkerless) machine this does not happen because the fabric is formed in a stationary, non moving point.

#### Ideal solution for very fine gauges

Fine gauges, 40-44, have become popular in the last years especially for the production of stretch fabrics for underwear.

The difficulty in the production of these fabrics and the extreme care in handling of the yarns, especially microfibres, have demonstrated the limits of the traditional machines with sinkers in the fabric formation because of the vertical lines.

Furthermore, the problem of deterioration of those parts of the needles that come into contact with the sinkers also arises (grinding of the latch spoons). This does not happen with the SL 2.3 (sinkerless) machine since it does not have sinkers and therefore it does not create either the vertical lines problem or the needle decay.

#### High productivity

The SL 2.3 32" Diam. 40 gg with 96 feeds can run normally at a speed of 30 rpm. Using polyamide 44/34 dtex with elastane yarn 22 dtex it can produce 280 kgs in 24 hours.

With this improvement in production capacity the SL 2.3 moves to first place production wise.

#### Solution of the problem of picking up the dropped-off fabric

After many years of studying and experimenting to find a solution to the problem of picking up the dropped-off fabric we have designed a system of picking up the fabric, in case it drops off, that simplifies the whole operation and actually is equal to that effected in a traditional machine with sinkers. This result was obtained by installing special elements and a semi automatic system (patented click-clack system) that moves the yarn guides in an optimal position for the opening of the needle latches. Thus, the picking up of the dropped-off fabric becomes easy and quick.

#### No more cleaning and maintenance operations needed

- Trials by our customers in the last few years have shown that with the SL 2.3 machine (Sinkerless) during 8/9 months of production, with a daily production of 500 kgs of fabric which means a total of 120.000-150.000 kgs, the machine needs no maintenance nor cleaning in the area of the stitch formation.

- They reach a point where they have to change the needles because they cannot guarantee anymore an acceptable fabric before they perform the cleaning and maintenance operation, which by the way is very simple because movable elements cam ring is constructed in sectors.

- This guarantees a high quality fabric and money saving in addition to the total absence of problems.

#### Easy replacement of parts worn down by yarns

PMT has patented a system that can replace easily the deteriorated inserts that form the knock over area as though they were normal sinkers.

We believe this to be an efficient solution to the problem that up to now no machine manufacturer has been able to solve.

#### Great energy saving

The sinkerless machine has many movable elements that work in the external ring having a body that is 50% of the body of a sinker. The sinkerless machine has as many movable elements as the number of sinkers in a traditional machine working in the external ring but their mass is 50% of that of the sinker.

Consequently the energy saving is estimated at 10%-15% compared to a machine with sinkers working under the same conditions.

# SL 2.3 TA3

SINGLE JERSEY FOUR TRACKS

## OPEN WIDTH

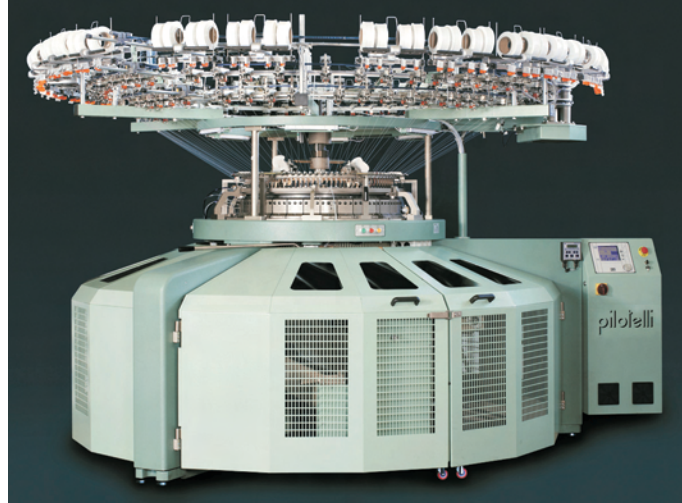
**PRODUCTION PERFORMANCE PLAIN JERSEY  
WITH ELASTANE**

DIAM. 34" · GAUGE 28

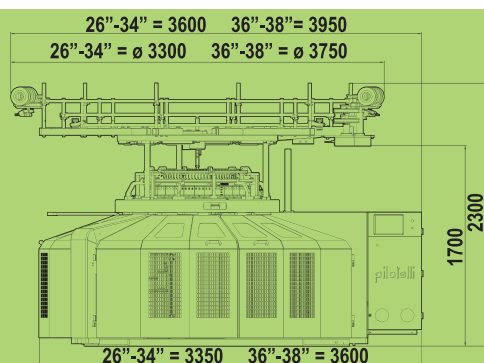
COTTON 30/1 Ne · ELASTANE 33 DTEX

FABRIC WEIGHT: 210 gr/m<sup>2</sup>

THEORETICAL PRODUCTION IN 24 HOURS: Kg. 950



Diameter	Gauge	Feeds	Speed [r.p.m.]	Speed factor
26"	From 14 to 32	78	36	936
30"		90	36	1080
32"		96	36	1152
34"		102	34	1156
36"		108	32	1152
38"		114	30	1140
26"	From 34 to 44	78	34	884
30"		90	32	960
32"		96	30	960
34"		102	28	952
36"		108	26	936
38"		114	24	912



Machine weight	26" - 34" = 3000 Kg 36" - 38" = 3200 Kg
Electrical Power Installed	6,5 Kw
Compressed Air Consumption	280 lt/min
Working Pressure (Air)	6 bar
Acoustic Pressure	82,3 dB(A)

### STANDARD EQUIPMENT

- Inverter electronic speed control device
- Automatic lubrication by Memminger-Iro Pulsonic
- Positive mechanical open width take down  
Max fabric width cm 230 e Max roll diam. cm 42
- Memminger-Iro NAVIGATOR control device including: Speed variation, Productivity control, LFA control, 4 shifts revolutions counter
- Two cam tracks for single jersey and piquè fabric
- Centralized stitch length adjusting system
- Movable yarn guides ring with Click Clack system (Pilotelli Patent)
- Three threads plated zirconium yarn guides
- Needles: Groz-Beckert Germany
- Movable elements: Kern-Liebers Germany
- Memminger-Iro positive yarn feeders MPF 20L
- Memminger-Iro elastane rollers MER-3 without covers
- Scanner FM10
- Side yarn creel with aluminium tubes

- Self cleaning system
- End of cycle cleaning
- Timed air distributor

### OPTIONALS

- High legs frame for Max diam. roll 75 cm
- Stair for high legs frame machine
- Uniwave automatic lubrication
- Additional cams for four tracks fabric
- Long needles for four tracks cams
- Side creel with antistatic PVC tubes
- Open side creel
- Air Jet system for automatic yarn threading
- Covers for Elastane Rollers MER-3
- J 3.0 version with single cam boxes system
- Additional side creel element with aluminium tubes

# SL 2.3 T3

## SINGLE JERSEY FOUR TRACKS

### TUBULAR

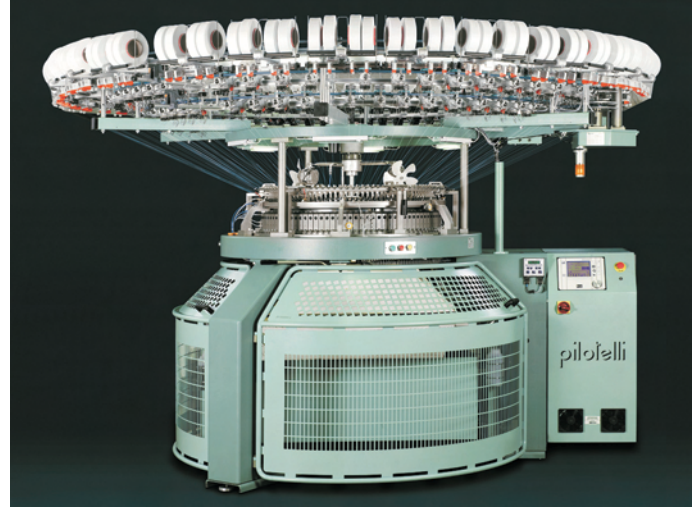
#### PRODUCTION PERFORMANCE PLAIN JERSEY

DIAM. 34" · GAUGE 28

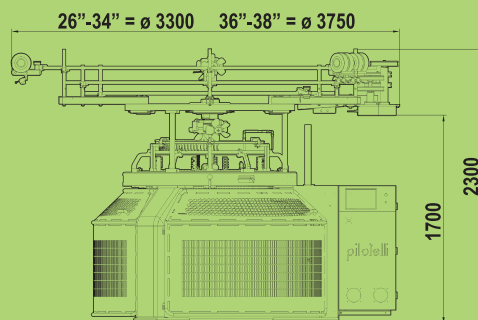
COTTON 24/1 Ne

FABRIC WEIGHT: 160 gr/m<sup>2</sup>

THEORETICAL PRODUCTION IN 24 HOURS: Kg. 1100



Diameter	Gauge	Feeds	Speed [r.p.m.]	Speed factor
26"	From 14 to 32	78	42	1092
30"		90	38	1140
32"		96	36	1152
34"		102	34	1156
36"		108	32	1152
38"		114	30	1140
26"	From 34 to 44	78	34	884
30"		90	32	960
32"		96	30	960
34"		102	28	952
36"		108	26	936
38"		114	24	912



Machine weight	26" - 34" = 2300 Kg 36" - 38" = 2500 Kg
Electrical Power Installed	6,5 Kw
Compressed Air Consumption	180 lt/min
Working Pressure (Air)	6 bar
Acoustic Pressure	82,3 dB(A)

#### STANDARD EQUIPMENT

- Inverter electronic speed control device
- Automatic lubrication by Memminger-Iro Pulsonic
- Positive mechanical tubular take down  
Max fabric width cm 140 e Max roll diam. cm 48
- Memminger-Iro NAVIGATOR control device including: Speed variation, Productivity control, LFA control, 4 shifts revolutions counter
- Two cam tracks for single jersey and piquè fabric
- Centralized stitch length adjusting system
- Movable yarn guides ring with Click Clack system (Pilotelli Patent)
- Three threads plated zirconium yarn guides
- Needles: Groz-Beckert Germany
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- Memminger-Iro positive yarn feeders MPF 20L
- Memminger-Iro elastane rollers MER-3 without covers
- Scanner FM10
- Side yarn creel with aluminium tubes

- Self cleaning system
  - End of cycle cleaning
  - Timed air distributor
- #### OPTIONALS
- High legs frame for Max diam. roll 75 cm
  - Stair for high legs frame machine
  - Fabric box
  - Fabric folder
  - Uniwave automatic lubrication
  - Additional cams for four tracks fabric
  - Long needles for four tracks cams
  - Side creel with antistatic PVC tubes
  - Open side creel
  - Air Jet system for automatic yarn threading
  - Covers for Elastane Rollers MER-3
  - J 3.0 version with single cam boxes system
  - Additional side creel element with aluminium tubes

# SL 2.3

**MORE  
PROFIT**

## ELECTRICAL SPECIFICATION

Electric equipment with **Memminger-Iro Navigator** device for thorough management of all the functions, with possibility to export and store production data.

**Inverter:** excellent quality, well dimensioned: 5.5KW (7.5HP).

**Main electrical motor:** well dimensioned, 5.5KW (7.5HP).

**Electric cabinet:** excellent ventilation for optimal temperature control.

**Electric Cables:** separately wired from the machine for easy maintenance.

**Safety:** in case of danger, the EMERGENCY button shuts down the machine and the electrical system (CE compliant).

**Morning timer:** prevents the machine start up at maximum speed before a warm up cycle (According to the operator settings).

**LFA Monitor:** electronic yarn consumption measuring device, up to 5 tracks (LFA: Length of Absorbed Yarn for each cycle of the machine).

**Scanner:** identifies various types of defects in the fabric, and allows for automatic machine stop.

**Data Collection:** possibility to connect a PC easily.

## CLEANING

**Automatic Cleaning:** during production (operator programmable compressed air in order to allow optimal cleaning and reduced air consumption).

**Fans:** powerful fans on the cylinder and feeding rings that ensure an optimal cleaning of yarns and feeders during production. They can also be used also during machine down-time to avoid lint accumulation.

**Fans rotation:** motor controlled, guarantees constant speed.

**Timed Air-Blast:** allows perfect cleaning of the yarn guides avoiding accumulation of cotton dust/lint.

## FRAME

**Manual control:** allows manual operation of the machine for inspection.

**Protection gates:** CE compliant for maximum operator security (the machine can not be operated without complete closure of all gates).

**Safety:** device for automatic machine shuts down in case the fabric falls underneath the take-down.

**Working group of the positive storage feeders:**

takes motion directly from the cylinder ring without unwanted movements.

Adjustable from the exterior, for ease of use.

Interchangeable noiseless synthetic gears.

Safety device for the closing of the carter.

**Lighting:** textile head illuminated by high efficiency, and low consumption fluorescent lights.

## LUBRICATION

**Pulsonic pump 5.2 - 24:**

Oil stream lubrication without fog formation.

Very low air consumption for lubrication.

## TEXTILE HEAD

**Cylinder:** mounted on an oil immersed bearing ring, to guarantee the necessary precision in long time work.

**Needles:** Groz Beekert.

**Movable elements:** Kern Liebers.

**Closed track cylinder cams:**

±0.5mm cam race for special stitch.

**Cam boxes:** Cast iron for better quality, dimensional stability, vibration abatement, guarantees efficiency over the years and they do not deform or squeeze in the solicited areas.

**Stitch length:** adjustable on each feed with a high precision micrometric dial indicator.

**Cam Boxes Sectors Carrying Ring:** operator friendly centralized adjustment of the stitch length (without blocking screws of the system).

High precision (1/100) dial indicator for the movement control.

**Yarn feeder ring:** mounted on adjustable supports, fixed to the sectors carrying ring:

It maintains the given position, even after adjusting the stitch length. The Yarn feeder is always in the correct position according to the needle shape.

**Yarn Feeder:** the machine is equipped with Zirconium feeders.

Their black color is ideal for optimal yarn visibility.

Zirconium guarantees a long lifetime before being damaged by yarn friction.

The feeder has three holes thus ensuring separate yarn control.

Allows the production of an excellent quality plated jersey (Vanisè).

Allows the production with three different yarns simultaneously.

Allows the production of three thread plated jersey (Trivanisè).

**Movable elements ring:** the profile of cams is optimized to allow production of plated jersey with Lycra and high speed working angles.

The ring and the relative cams work suspended over the cylinder, avoiding thus any contact and thereby eliminating friction.

**Cylinder:** built using the most advanced and precise technologies.

The needle housings are formed by tempered steels tricks with high hardness, fluency and mounted with micrometric precision.

The movable elements housings are obtained with micrometric precision in tempered steel rings with high hardness and fluency to guarantee a long lifetime.



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