



WKS<sup>TM</sup>

b y C I F R A



W A R P K N I T S E A M L E S S





WWS

TM

by CIFRA



INDEX

4		INTRO
10		FEATURES
16		SPORTSWEAR
24		WARP JACKETS
28		FASHION
36		HOSIERY & LINGERIE
40		3D KNIT BREAKTHROUGH
42		FIBERS & YARNS
46		HOW TO WORK WITH US
48		COMPANY PROFILE

WARP KNIT  
SEAMLESS

THE STATE  
OF THE ART

WKS<sup>TM</sup>

by C I F R A





WKS™

SEAMLESS,  
BREATHABLE  
AND LIGHTWEIGHT

## THE BALANCE BETWEEN PATTERN, DESIGN AND FUNCTIONALITY

When it comes to performance apparel, seams are the enemy. They are heavy, create areas of weakness and can be uncomfortable on the skin. With WKS™ we create seamless garments that fit naturally to the body.

In one single piece, knitted structures transitions support body natural movement and help regulate temperature, each zone having its own functionality. In addition, warp knitting reduces the weight of the garment because edges don't require additional finishing.

With the WKS™ technology it is possible to create not only several types of tubular formed knitting, but also to devise simultaneously various design structures on the tubular. The design of the mesh holes that map directly to the heat zones of the body, provide breathability and cooling where needed the most.

Complete garment knitting offers a variety of benefits in technical aspects as well as in the market demands. For benefits to the market, quick-response production and just-in-time production are possible.

Mass customization is the use of technology and management methods to offer product variety and customization through flexibility and quick response.

Computer based piezo - jacquard system, design and know-how are the keys of the success of this knitting manufacturing technology.



WKS™

# PRODUCTION FOR YOUR BRAND

Sportswear as well as fashion Brands can find here the best partner for the realization of unique stylish and performing garments.

Consolidated experience and the highest know-how of skilled technicians offer an exclusive service so to follow the customer's needs from the first idea to final product.









WKS™

## FEATURES

### BODY MAPPING

Jacquard designs are engineered with open mesh details to create stylized breathability areas in the garment.

### ZERO SEAMS

There are no chances of seam puckering, mismatching of patterns, and fitting-related problems. With the seam-free construction you will have no bulky and irritating stitches but lightness and a total freedom of movement.

### DIFFERENT DIAMETERS IN THE SAME GARMENT

The knitting of different diameters of tubes within a single garment. Wider range of fit for different body shapes. With the “4 – way stretch” you will reach the perfect fitting.

### NO LADDERING

The yarn does not run or ladder if cut. Garments can be sold with unfinished edges.

### BE-SPOKE KNITTING


Garments are totally customizable. Quick response production for size and pattern requests.

### HIGH TENACITY

Warp knitted fabrics are much more resistant compared to other textile fabrications.

### SUSTAINABILITY

WKS™ is an eco-friendly technique as it allows a significant reduction in production waste.



ZERO SEAMS

NO LADDERING

HIGH TENACITY

BREATHABLE MESH

SHAPES FLEXIBILITY

BODY MAPPING JACQUARD

WHOLE GARMENT SEAMLESS

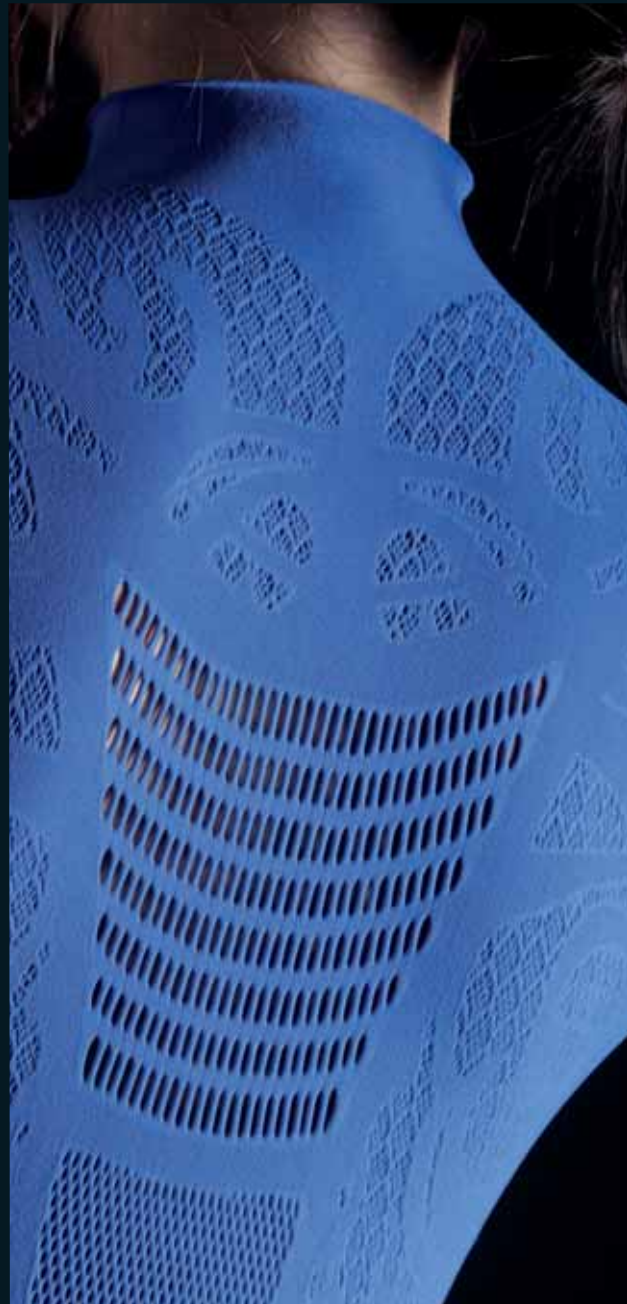
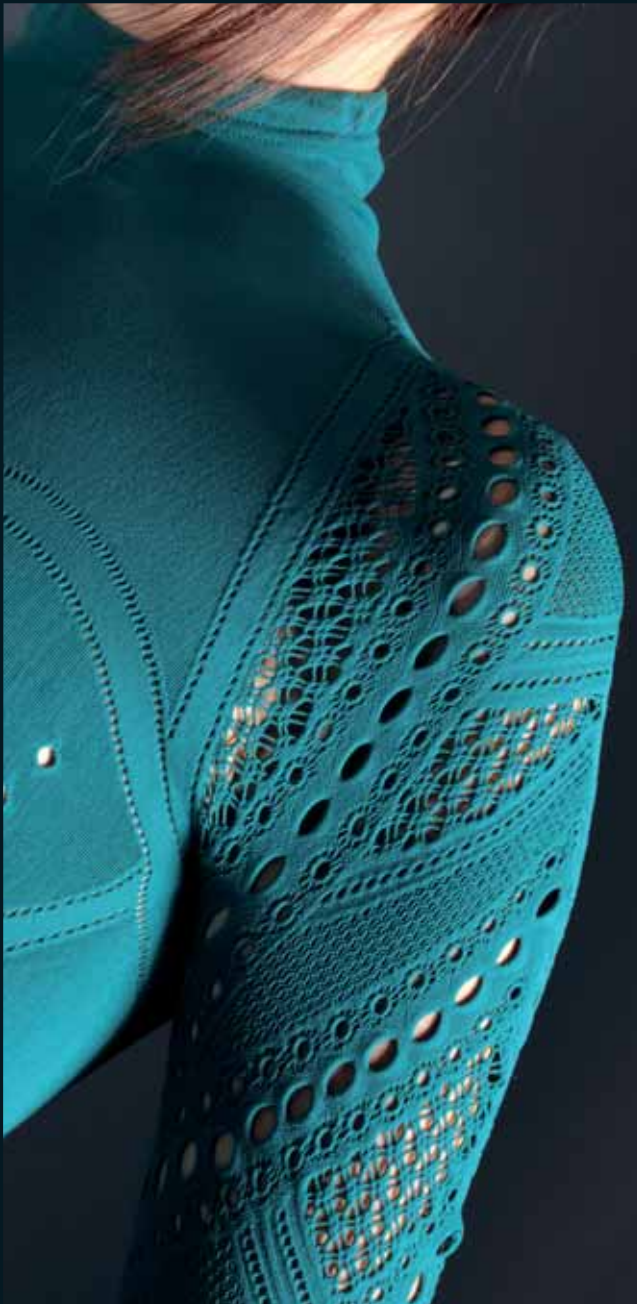
SUSTAINABLE TECHNOLOGY

WKS™

TEXTURES  
INSPIRATIONS



Complete absence of stitching, run proof property, elastic structure and functionally zoned open mesh patterns are the strength of highly performing garments.





WKS™

ATHLEISURE LIFESTYLE

## FASHION & FITNESS

The booming athleisure trend combines casual fashion and sportswear and is not just a fashion trend, but a lifestyle. It is about feeling both comfortable/functional and well-dressed at the same time.



WKS™

SPORTSWEAR

FUNCTIONALITY,  
PERFORMANCE  
AND STYLE  
FOR AN ACTIVE LIFE

These revolutionary garments allow to play your favorite sport with unparalleled comfort.

The absence of seams prevents the occurrence of skin irritation and ventilation areas provide perfect moisture management while adapting precisely to the body like a second skin.

WKS™ represents a new generation of sportswear ideal for training, yoga, running, cycling and many other sports.





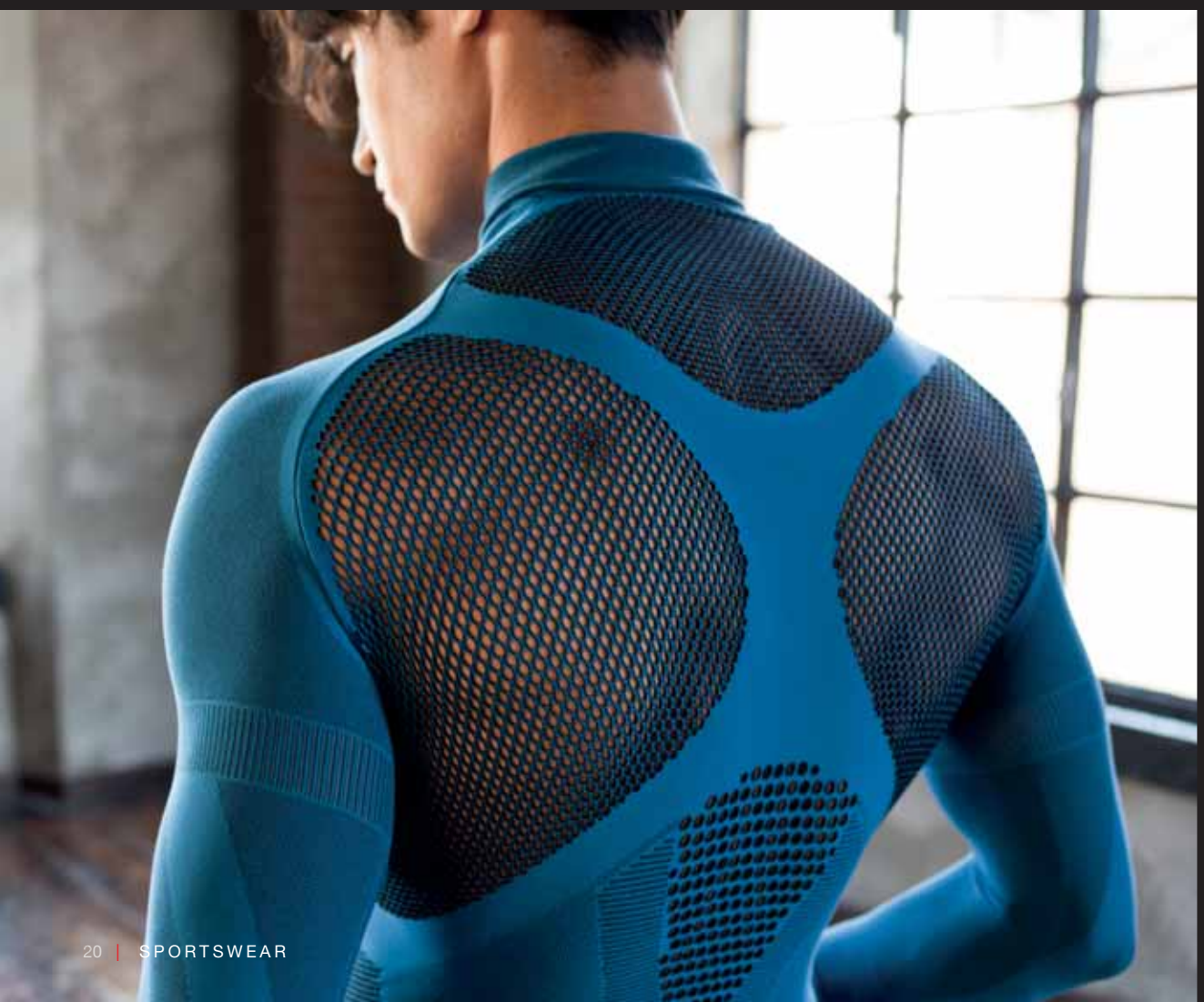


## EXCEED YOUR LIMITS AND OPTIMIZE YOUR EXERCISE

The sportswear market is booming and those who practice sports or just want to stay in shape need high performance clothing with specific features.

Totally seam-free garments optimize movements whereas body-mapping ventilation areas keep body temperature stable. Smooth and flawless support is provided by the use of premium microfibers yarns.











MAXIMISE  
YOUR  
WORKOUT



WKS™

THE WARP  
SEAMLESS  
JACKET  
COLLECTION

WKS™ INNOVATIVE  
OUTERWEAR

Warp jacket collection comes with the same top features that make all WKS™ products unique.

These upper casual garments for contemporary and functional outerwear, combine ultra comfort and performance.

Warp seamless technique allows to create body-mapping designs so to enhance these jackets with functional structures such as ventilation areas to ease transpiration and compression zones for higher comfort.









WKS™

FASHION

ELEGANCE  
AND COMFORT  
FOR EVERYDAY LIFE

WKS™ technology allows a continuous improvement in development of new iconic styles that meets customers' demand and keep up with updated fashion trends.

Endless possibilities of jacquard designs, stitches combinations and shapes can be realized in a single garment.













## WKS™ OPENS UP GREAT CREATIVE POSSIBILITIES FOR FASHION MARKET

WKS™ provides a multitude of design possibilities thanks to the jacquard system. Customers' ideas will be realized by our style team made of 8 skilled designers.





PATTERNS  
AND DESIGNS  
WITH NO  
LIMITS



A woman is sitting on a black tufted leather sofa in front of a large window. She is wearing black lace long-sleeved top and matching bottoms. Her legs are crossed, and her right hand is resting on her left thigh. The window behind her is bright, showing a view of a building outside. A red diagonal line is drawn across the upper left portion of the image.

WKS™

HOSIERY & LINGERIE





ELEGANCE AND  
COMFORT FOR  
EVERYDAY LIFE



We create super fashionable WKS™ collections for hosiery and lingerie: customers can find a huge library or create brand new exclusive styles with the help of our designers.

WKS™

# KNITWEAR REVOLUTION



## Technology and creativity

### UNIQUENESS

There are three 3D knit technologies:

The body size circular weft knit (“Santoni” machines): circular knitting produces garments made by single jersey electronic circular knitting machines.

The computerized flat knit (“Shima Seiki” and “Stoll” machines): the yarn turns on the front and on the back of needle beds to form tubular fabric. The complete garment is formed by the stitching movement.

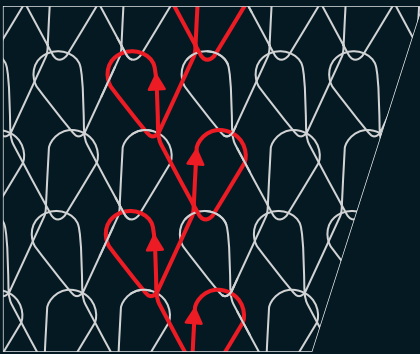
WKS™: Raschel Double needle bar Jacquard warp knit:

the front and the back needle bars knit both fronts respectively, while the middle jacquard bar joins them to form the seamless garment.



Warp knit is the perfect blend of performance, beauty and comfort.

## Advantages



### DIAMETERS

In WKS™ there is no diameter. WKS™ is a flat knitting machine of 128 inches in length. The Jacquard system allows to decide the dimension of the diameters. Different diameters can be also knitted at the same time (i.e.: body and sleeves, gloves or leggings).

Considering the mechanical elasticity given by the warp knit, you have to respect a tolerance of about +/- 5% in all measures.

### PATTERNS AND DESIGNS

It is possible to design any kind of pattern or logo, with no limits as far as sizes and silhouettes are concerned.

At any time our Cifra style office equipped with CAD technology can make new prototypes upon customers' indications. For better service and protection the designs are registered by the OHIM (Office of Harmonization for the internal market).

### LADDER PROOF

With the WKS technique items are more resistant, in case of holes or rips, the knit does not ravel. This is possible because in warp knit each yarn creates knots, instead in weft knit the yarn just inlay one over the other.

Moreover in WKS™ process items come out from the machines almost finished reducing sewing operations.

This process cuts finishing costs and the time to market is significantly reduced.

WKS™

FIBERS & YARNS



The choice of the fiber is an important aspect for the realization of warp knitted items. The first step when we receive bobbins from the supplier is the WARPING.





We assist the client choosing fibers and yarns.

Thanks to the possibility to mix different fibers, both natural and synthetic, we can offer a wider range of fabrications for sportswear and fashion garments. Here some of the specialities fibers Cifra cooperates with:

**THERMOLITE**<sup>®</sup>



**emana**<sup>®</sup> by FULGAR  
SCIENCE GOES IN. BEAUTY COMES OUT.

**ROICA**<sup>™</sup>  
ADVANCED SUSTAINABLE STRETCH  
by Asahi Kasei

THE FEEL GOOD MICROFIBRE  
**Dryarn**<sup>®</sup>  
BY ROICA



  
**SENSIL**  
ECCOCARE

**Q-nova**  
BY FULGAR<sup>®</sup>



 **TENCEL**<sup>®</sup>

**PROLEN**<sup>®</sup>

**ESONYL**<sup>®</sup>

**REPETABLE**<sup>®</sup>  
multi life fibres

**RENYCLE**<sup>®</sup>  
nylon after nylon

**südwollgroup**



The most used fiber by Cifra for the knitting of WKST™ garments is Nylon 6.6.

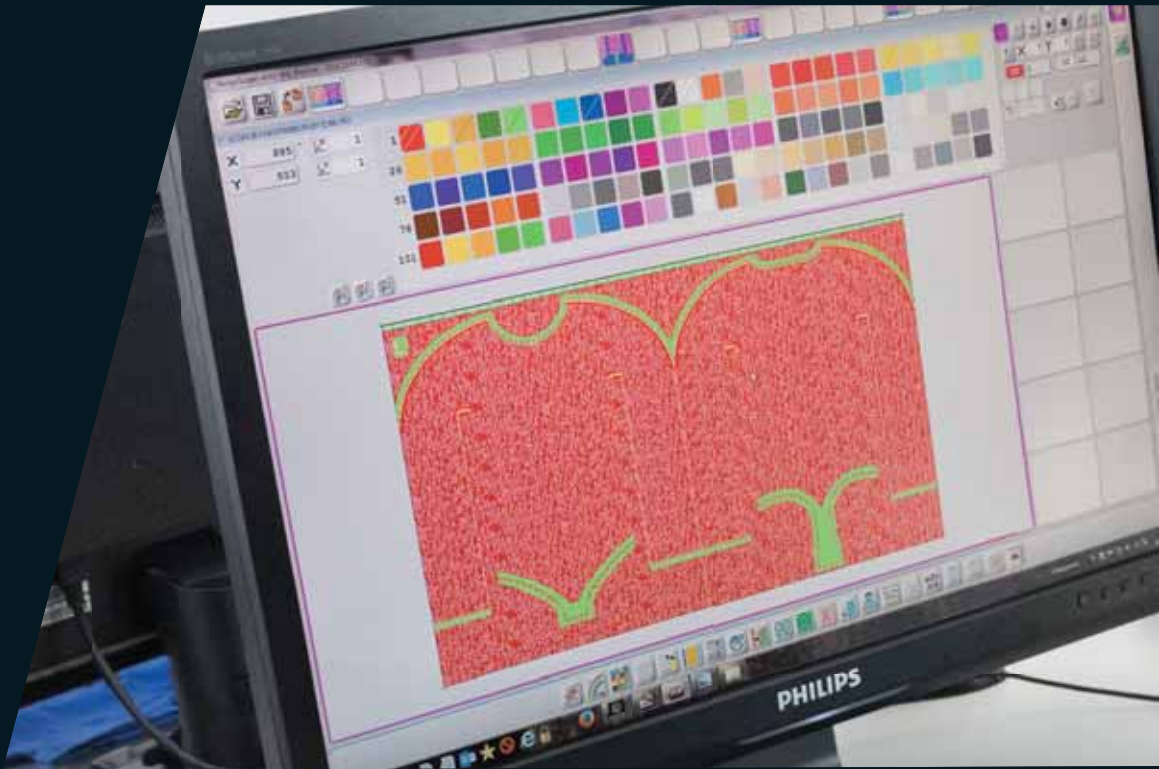
Its excellent properties:

- Exceptionally strong
- Elastic
- Easy to wash
- Superior moisture management
- Filament yarns provide smooth, soft and long-lasting fabrics
- Light and warm

We use it single or combined with Lycra, Polypropylene, merino wool, Polyester and many others.

WKS™

## TAILOR MADE CLIENT SERVICE



**We provide a tailor-made service to all our customers in order to meet their needs.**

Cifra can supply both greige and dyed/finished garments.

MOQ : 300 units per size

MCQ : 300 units per color

Lower quantities might be evaluated upon surcharge.

Colours can be selected from TCX/TPX Pantone code.

Cifra's working method based on consolidated experience ensures excellent results with maximum efficiency.

We support our customers from the very inception of a new project till its final realization. Together with the client we define the working phases needed to obtain the required outcome.



1. DRAWING



2. TEXTURE INSPIRATION



3. CHOICE OF THE YARN



4. DEFINITION OF SHAPE AND SIZE



5. COMPUTER AIDED DRAFTING (CAD)



6. COLOR DYEING & FINISHING



7. FINAL PRODUCT



WKS™

## COMPANY PROFILE

### WORLD LEADER

Founded in Northern Italy in the late '70s, Cifra is a manufacturing company better known as "warp knit center of excellence" that produces garments for private brands with an exclusive technology.

Our commitment to innovation, flexibility, strong production capacity and know-how made us the most innovative in the production of WKS™ items.

Cifra is a B2B oriented company that produces for the major international brands. Our knitting facility with Rachel and jacquard double needle bar machines, is fully located in Verano Brianza.

4000 sqm of production plant in Italy

25 Karl Mayer Double needle bar Jacquard knitting machines

10 CAD design computer stations

10.000 units/day production capacity





"Today CIFRA is the most innovative and largest producer of warp knitted seamless apparel in the world"

Oliver Mathews


Vice President Business Unit Warp Knitting  
at Karl Mayer GmbH

## MISSION & VISION

We are committed to creating a win-win situation for our customers and being the partner with an exclusive technology that offers the best performing and unique products.

## SUSTAINABLE TECHNOLOGY

Aligned with Cifra commitment towards eco sustainable production, WKS™ technology guarantees significant fabric waste reduction.



*ZERO SEAMS*

*NO LADDERING*

*HIGH TENACITY*

*BREATHABLE MESH*

*SHAPES FLEXIBILITY*

*BODY MAPPING JACQUARD*

*WHOLE GARMENT SEAMLESS*

*SUSTAINABLE TECHNOLOGY*

Please visit our website for more info

**[wks-cifra.com](https://www.wks-cifra.com)**



