



OCTIR.  
Woollen. Worsted.  
Semi Worsted.



# AUTEFA SOLUTIONS –

our technologies for your success



## OCTIR – long staple fibers spinning

AUTEFA Solutions Italy is a leading card manufacturer. The company combines in Biella the two biggest Italian card manufacturers, OCTIR and F.O.R. AUTEFA Solutions includes companies with a long-standing tradition. Four successful machine manufacturers form the company AUTEFA Solutions. These are AUTEFA in Friedberg, Austria-based Fehrer in Linz, and the Italian companies F.O.R. and OCTIR in Biella as well as the newly founded companies AUTEFA Solutions North America and AUTEFA Solutions Wuxi, China.

With a history of more than 100 years in card production (F.O.R. was established in 1907 and OCTIR was established in 1911) and the successful supply of more than 6000 cards all over the world, today AUTEFA Solutions is a preferred partner in supplying cards with the most advanced mechanical and electronic technologies, always fully designed and manufactured in Italy.

For long staple fibers spinning, the production program includes:

- **Woolen Carding Sets** to process fine and extra fine wool, cashmere and silk, for high quality weaving and knitting yarns
- **Woolen Carding Sets** to process standard wool and synthetic fibers for carpet and blanket yarns
- **Worsted Cards** to process wool, mohair, angora, cashmere, synthetic fibers and silk, for high quality weaving and knitting yarns
- **Semi Worsted cards** to process wool and synthetic fibers for carpets yarns

The experience and the know-how of our designers and technicians are the best reassurance for our customers who are, and we are very proud of it, the finest manufacturers of textiles all over the world.

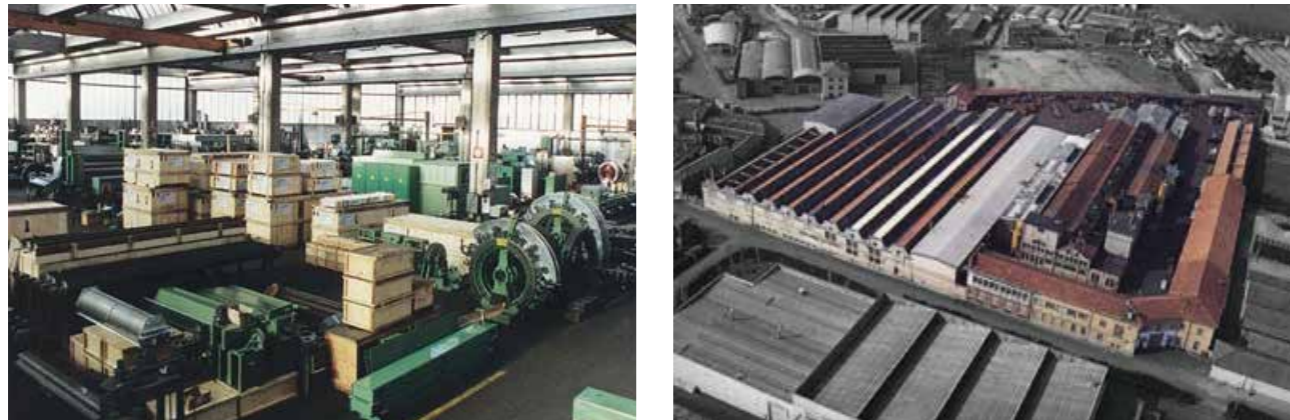
A historic plate on a still-working OCTIR Card, dating back to 1952.



# OCTIR-Dragon Multitrave Woollen Carding Sets

The best Woollen Carding Sets to produce the highest quality yarns.

Each single part of the Woollen Carding Sets is produced in Italy and tested to assure the highest reliability and longevity on the heaviest working conditions. AUTEFA Solutions is the only company that still manufactures the large dimension parts, such as main and side frames, in cast iron and submits them to a long natural seasoning, to guarantee long dimensional stability and less vibration, and finally the most even yarn during time.



## Main characteristics of the Dragon Multitrave Woollen Carding Set:

**END PRODUCTS: WOOLLEN YARNS FROM 0.6 NM TO OVER 40 NM FOR**

- Carpet Yarns
- Blanket Yarns
- Weaving Yarns
- Knitting Yarns

**FIBERS PROCESSED (NEW OR RECLAIMED, PURE OR BLENDED):**

- Wool
- Cashmere
- Synthetic fibers
- Other natural fibers (Camel Hair, Mohair, Alpaca, Yak, etc.)

**MAIN DATA:**

- Working widths: 2000 mm, 2500 mm, 3000 mm, 3500 mm
- Drums Ø: 1650 mm
- Doffers Ø: 1280 mm
- Numbers of workers/strippers: from 6 to 8 per drum
- Tape Condenser: single or double
- Giant traversing creel or tandem creel
- Mechanical synchronization between the two cards (breaker and finisher), OCTIR system.



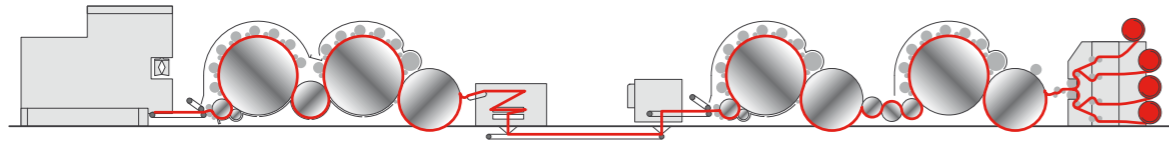
Woollen Carding Sets for Cashmere

### NEW FEATURES OF OCTIR DRAGON MULTITRAVE WOOLLEN CARDING SETS:

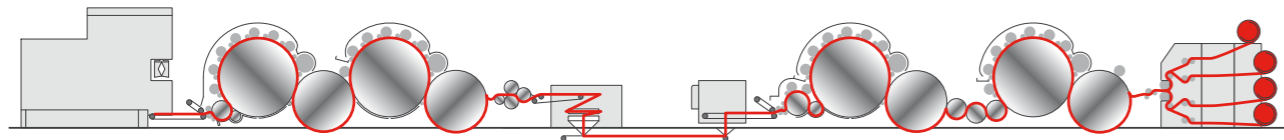
- Feeding cylinders Ø 108 mm instead of Ø 140 mm enable better fiber control and produces a yarn with less thin/thick places and with better CV and Uster values
- AC drives with inverters for main drives and for eccentric column to have a fine set up of the speeds and reach the best performance of the carding set
- Control Panel with touch screen and management of the main parameters of the machine functions to allow the control and supervision of the carding set including operational and fault messages
- New side doors for an easy and quick access to the card parts for cleaning and maintenance

## Woollen Carding Sets

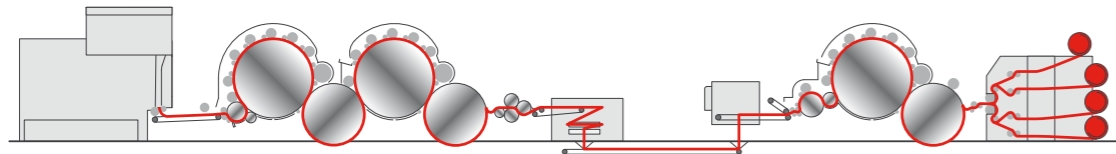
COMPOSITION A2C/S3T1 FOR CASHMERE YARN



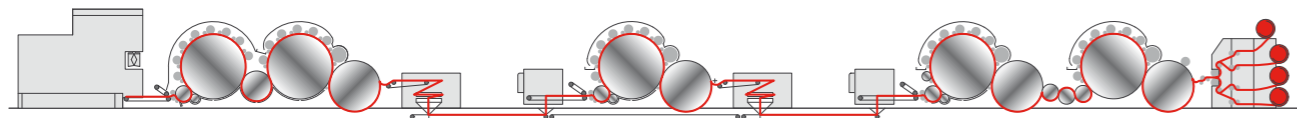
COMPOSITION A2C/VV3TM FOR WOOL YARN



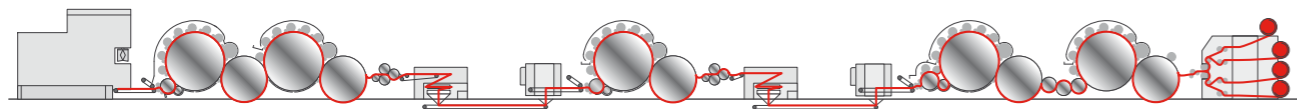
COMPOSITION A2C/VV2T2 FOR CARPET YARN



COMPOSITION DRAGON A3C-S4T1 FOR CASHMERE YARN

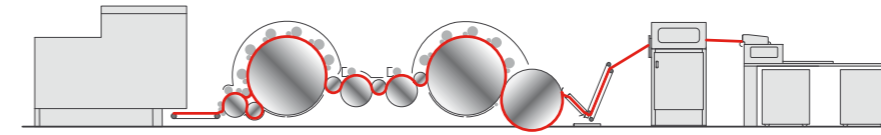


COMPOSITION A3C/VV4TM FOR WOOL AND FOR RECLAIMED FIBER YARN

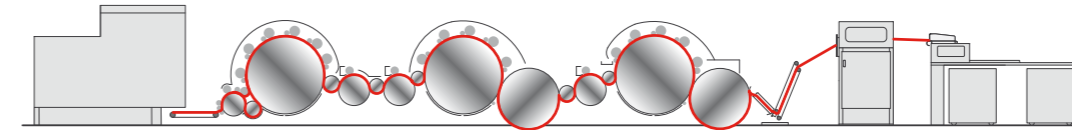


## Worsted and Semi Worsted Cards

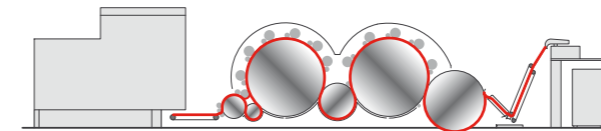
COMPOSITION CL/3S FOR WOOL TOPS



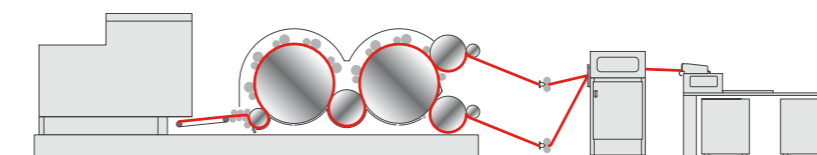
COMPOSITION CLD/4S FOR WOOL TOPS



COMPOSITION CL/CASHMERE FOR CASHMERE TOPS



COMPOSITION CSS/2P FOR SYNTHETIC FIBER TOPS



## OCTIR-Dragon Multitrave Worsted Cards

The cards chosen by the world top textile manufacturers for the highest quality tops.

The OCTIR dragon multitrave Worsted Cards guarantee high productivity with no compromise on tops quality. AUTEFA Solutions manufactures the large dimension parts, such as main and side frames, in cast iron and submits them to a long natural seasoning, to guarantee long dimensional stability and less vibration, and finally the most even tops during time.

### Main characteristics of the Dragon Multitrave Worsted Cards:

#### END PRODUCTS: TOPS OF

- Fiber fineness: from 14.5 to 40 microns
- Fiber length: from 40 to 220 mm

#### FIBERS PROCESSED:

- Wool
- Cashmere
- Synthetic fibers
- Mohair
- Silk

#### MAIN DATA:

- Working widths: 2000 mm, 2500 mm, 3000 mm, 3500 mm
- Drums Ø: 1650 mm
- Doffers Ø: 1280 mm
- Delivery Speed: from 100 m/min to 400 m/min



Worsted Card with in-line Sliver Drafter and Can Coiler

#### NEW AND SPECIAL FEATURES OF OCTIR DRAGON MULTITRAVE WORSTED CARDS:

- **Breast of large diameter with 6 workers / strippers:** More workers allow a more gradual process of the fibers, that results in less fiber breakages and damages.
- **New design of the de-burring system with 3 burr beaters (1st on the feeding unit), bigger Morel cylinders (Ø 650 mm instead of Ø 500 mm) and with an easy removal of brush cylinders (from the top without opening the card):** Larger morel cylinders increase the cleaning and deburring capacity and produce more clean tops.
- **New design of the system for dust suction – the new chutes are totally integrated in the covers of the main drum:** New chutes improve the efficiency of the suction of dust and exhaust air and simplify the opening of the card covers.
- **Feeding cylinders with bushes with needles:** More control and care of the fibers means less breakages and damages and longer final average fiber length in the tops.
- **Double transport points on the opening cylinder:** Increase the throughput and increase the blending action
- **New drives with single Ac motors with inverters for main functions:** To have a fine set up of the speeds and reach the best performance of the carding set
- **New can coiler:** Easier to manage, requiring less cleaning and maintenance.
- **New side doors (no more rails on the floor):** For an easy and quick access to the card parts for cleaning and maintenance.



New side doors for Worsted Cards

## OCTIR-Dragon Multitrave Semi Worsted Cards

The cards chosen by the world top textile manufacturers for the highest quality tops.

The OCTIR dragon multitrave Semi Worsted Cards guarantee high productivity with no compromise on tops quality. AUTEFA Solutions manufactures the large dimension parts, such as main and side frames, in cast iron and submits them to a long natural seasoning, to guarantee long dimensional stability and less vibration, and finally the most even tops during time.

### Main characteristics of the Dragon Multitrave Semi Worsted Cards:

#### END PRODUCTS: TOPS OF

- Fiber fineness: from 14.5 to 40 microns
- Fiber length: from 40 to 220 mm

#### FIBERS PROCESSED:

- Wool
- Cashmere
- Synthetic fibers
- Mohair
- Silk

#### MAIN DATA:

- Working widths: 2000 mm, 2500 mm, 3000 mm, 3500 mm
- Drums Ø: 1650 mm
- Doffers Ø: 750 mm
- Delivery Speed: from 100 m/min to 400 m/min



Semi Worsted Card with side Sliver Drafter and Can Coiler

#### NEW AND SPECIAL FEATURES OF OCTIR DRAGON MULTITRAVE SEMI-WORSTED CARDS:

- **Breast of large diameter with 5workers / strippers:** More workers allow a more gradual process of the fibers, that results in less fiber breakages and damages.
- **New design of the de-burring system with 3 burr beaters (1st on the feeding unit), bigger Morel cylinders.**
- **(650 mm instead of Ø 500 mm) and with an easy removal of brush cylinders (from the top without opening the card):** Larger morel cylinders increase the cleaning and deburring capacity and produce more clean tops.
- **New design of the system for dust suction – the new chutes are totally integrated in the covers of the main drum:** New chutes improve the efficiency of the suction of dust and exhaust air and simplify the opening of the card covers.
- **Feeding cylinders with bushes with needles:** More control and care of the fibers means less breakages and damages and longer final average fiber length in the tops.
- **Double transport points on the opening cylinder:** Increase the throughput and increase the blending action.
- **New drives with single AC motors with inverters for main functions:** To have a fine set up of the speeds and reach the best performance of the carding set.
- **New can coiler:** Easier to manage, requiring less cleaning and maintenance.
- **New side doors (no more rails on the floor):** For an easy and quick access to the card parts for cleaning and maintenance.

## Zeroflex

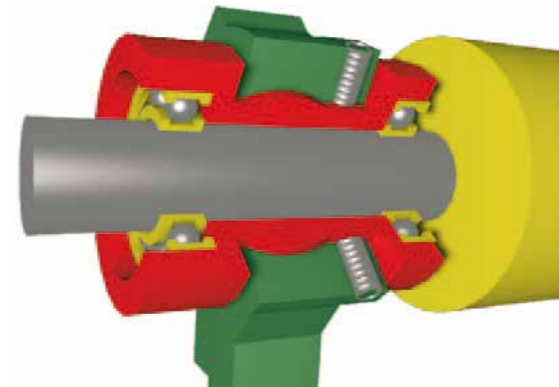
### PATENTED, STRAIGHT CYLINDERS

To cancel any deflection in the cylinders of smaller diameter (worker and stripper cylinders), OCTIR has patented the Zeroflex cylinders. These cylinders are manufactured in special materials, reinforced with ends blocked in the machine frame and supported by self-aligning brackets.

The cards are mechanically very difficult to manufacture, since the constructor must guarantee a constant distance, in all the width of the card, between big drums (1.65 m diameter) and smaller cylinders (like the strippers, with a 98 mm diameter).

From a physical point of view, the small cylinders are subject to a bigger deflection than the large drums. Due to that effect, for a wider card, the gap between the main drum and a stripper will be smaller on the sides and larger in the middle. For this reason we patented a system to hold the smaller cylinders in position, called Zeroflex. With this system we replaced the two side bearings with a special round support with two bearings on each side, as showed in detail by the picture.

With this system, we are able to reduce the deflection of the smaller cylinder to 1/5 of the deflection of a cylinder with a standard support.



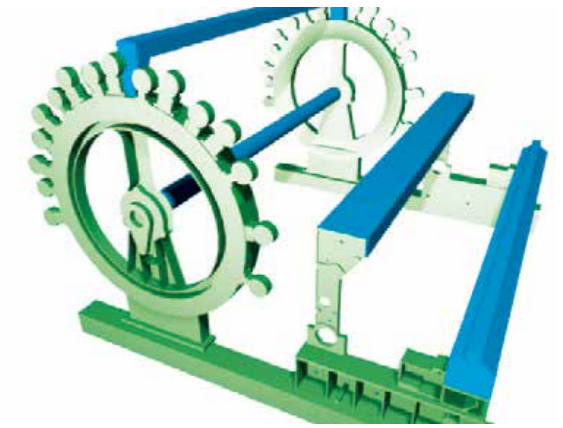
Zeroflex brackets

## Multitrave Frame

### GUARANTEEING PRECISE MACHINE SETTINGS

With hexahedral structure and hidden beams, the multitrave frame ensures a rigid support of the large working width drums. Due to the multitrave frame, the machine settings keep constant at any speed and under the highest mechanical stress.

The shafts of the big drums are part of the main frame of the card. This means that they are not turning with the drums, that are rotating around the shafts: the shafts remain stationary. This particular feature offers an incredibly rigid frame that won't be affected by the wearing, the ageing or by accidents: this means that our card will last for a life.



Side frame with stationary shaft

## Tape Condenser

According to the materials to be processed and the yarn to be spun, the following division systems are available:

- Endless tape (for fine count yarn)
- Eight-figure tape (for coarse to mediumcount yarn)
- Multiple tape (for coarse to medium count yarn)

Moreover, the condenser tape can be with:

- Single rubbing
- Double rubbing

All the frames are manufactured in cast iron to achieve a high rigidity and to reduce vibrations, while the axial rubbing movements are controlled by an inverter.



Tape Condenser

## Impurities Removal

For an easier and more effective removal of vegetable matters, the OCTIR Dragon Multitrave Card is equipped with three Zeroflex burr beaters, specially manufactured by AUTEFA Solutions, together with bigger Morel cylinders.

- The burr beaters are made of steel. By using a special machine tool developed by AUTEFA Solutions, we insert the “spring steel” lamellas. Thanks to this manufacturing process we do not need to harden the burr beaters: they will last for a life, without any wearing.
- The Zeroflex supports of the burr beaters allow a perfectly straight setting of the cylinder, side by side, so that you can eliminate most part of the impurities, without removing the good fibers.
- Bigger Morel cylinders, Ø 650 mm instead of Ø 500mm, for better fibers transport.
- The brush cylinders can be removed from the top, without opening the card.



Burr beater

## Doffing Combs

Special doffing combs with intermediate supports and bracing beam for very high of up to 3.200 rpm.



Details of Doffing Combs (Courtesy Officina Meccanica Montenero)

## Sliver Drafter

This new Sliver Drafter with four couples of cylinders allows a more gradual drafting and a higher drafting value, to obtain more uniform tops and a higher throughput of the card.

It includes:

- Four couples of cylinders. Each cylinder has a diameter of 140 mm to avoid lapping.
- The upper cylinders are covered with special rubber and lifted by a pneumatic piston.
- Three independent motors, driven by inverters:
  - One motor for the first and second couple of cylinders
  - One motor for third couple
  - One motor for fourth couple



Sliver Drafter with four couples of cylinders





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