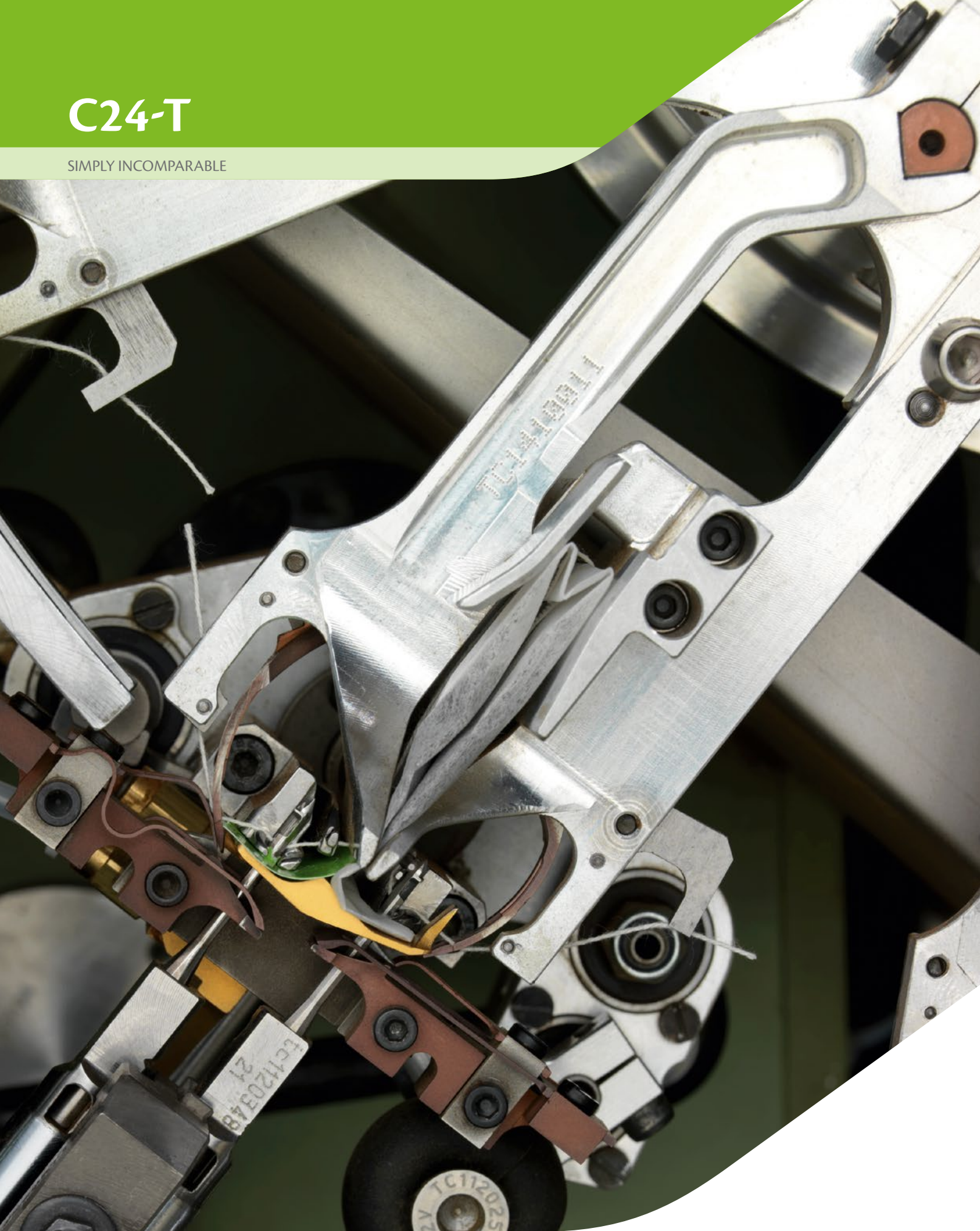


C24-T

SIMPLY INCOMPARABLE



C24-T SIMPLY INCOMPARABLE

Evolved from the original C24 equipment, the new C24-T has been designed as a simplified, cost-effective solution whilst maintaining the same high efficiency level as that achieved by the more sophisticated C24-E model.

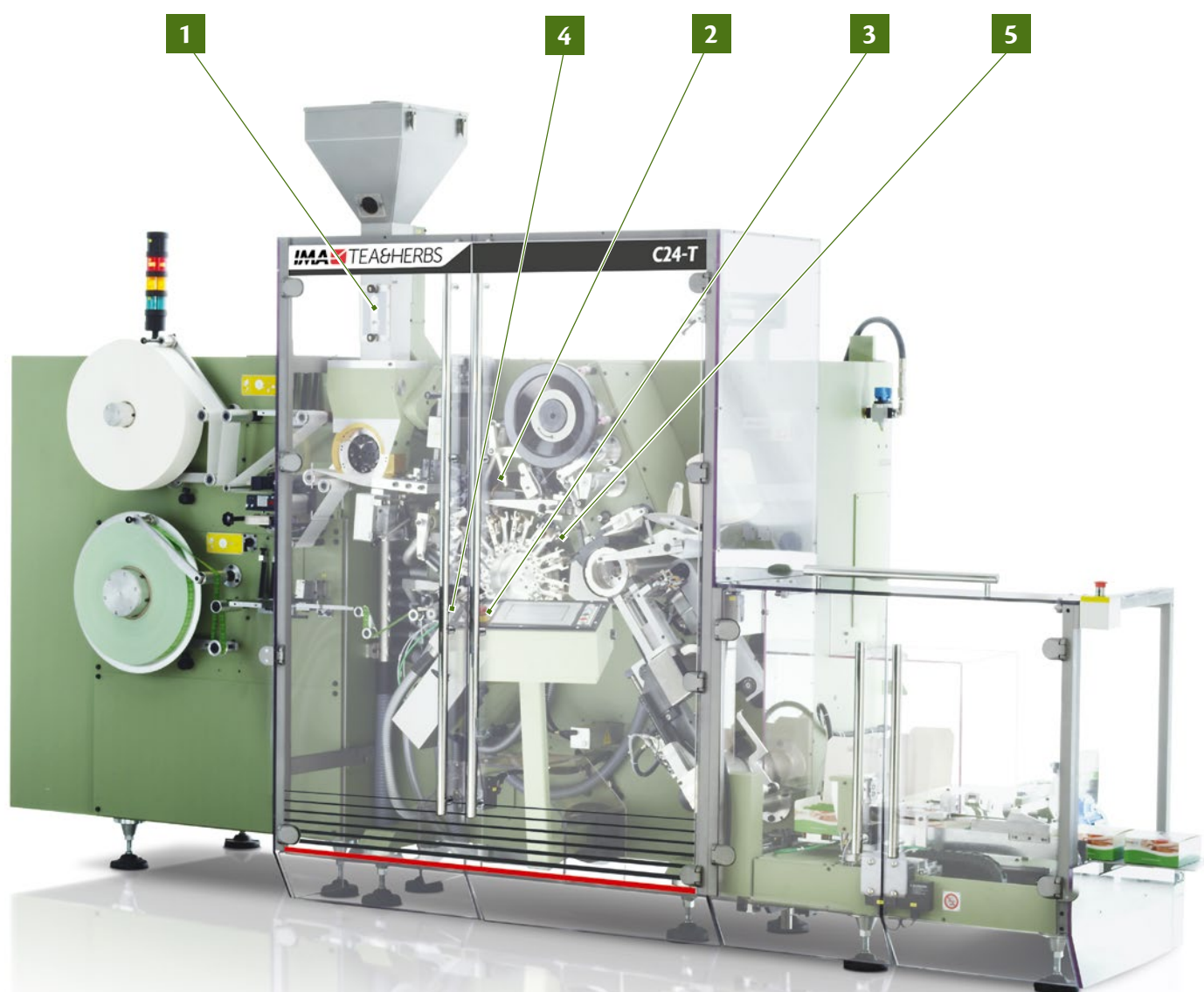
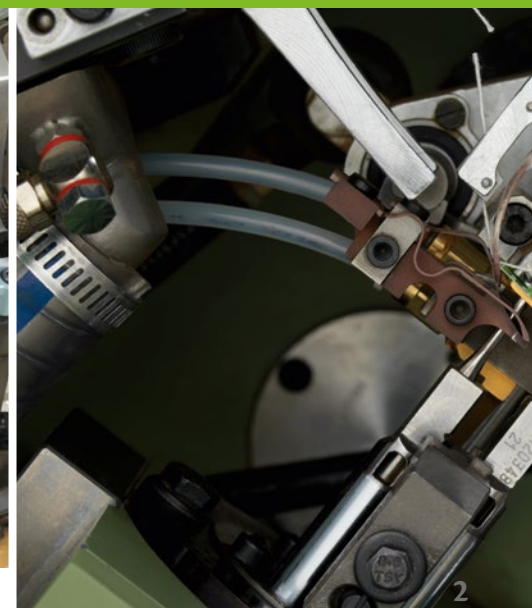
Highly reliable and speed-oriented, the C24-T deals solely with knotted naked bags and fits perfectly into existing packaging lines where black tea or free-flowing products are being handled.

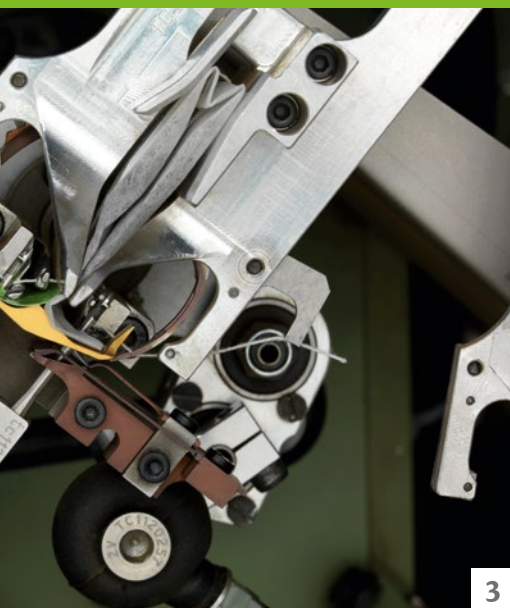
OPTIMUM EFFICIENCY
AND PRECISION, TOGETHER
WITH A COMPACT
FOOTPRINT MAKE THE
C24-T THE IDEAL CHOICE
TO GUARANTEE EXCELLENT
PRODUCTIVITY WHILE
LIMITING COSTS TO WHAT
IS STRICTLY ESSENTIAL.





C24-T THE IDEAS TAKE SHAPE





3



4



5

1

DOSING

simplified dosing unit
for black tea and
free-flowing products

2

CUTTING

double chamber filter bag
cutting and erection

3

KNOTTING

knotting on tag
and filter bag

4

ELECTRONICS

filter bag conformity control

5

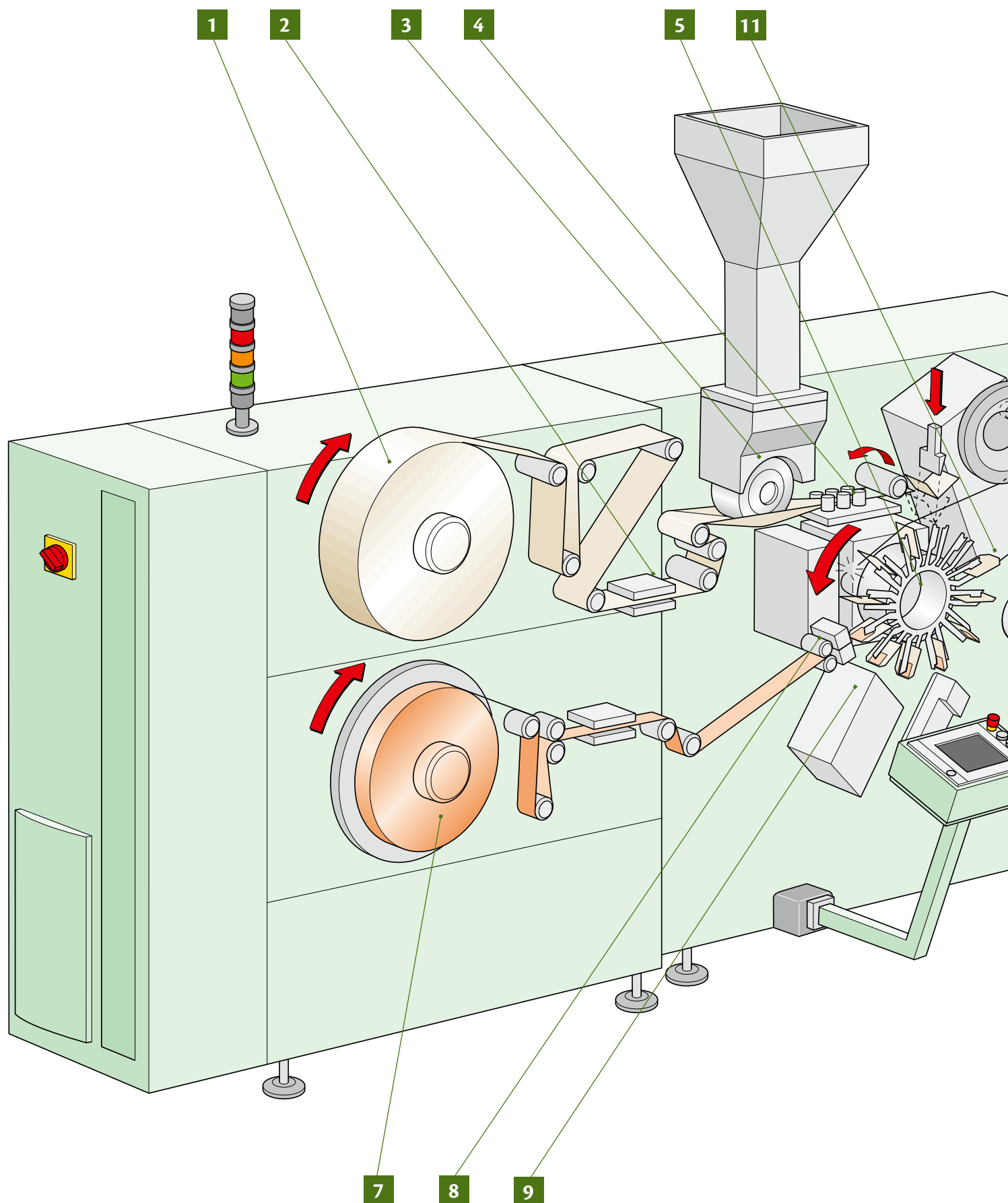
REJECTION

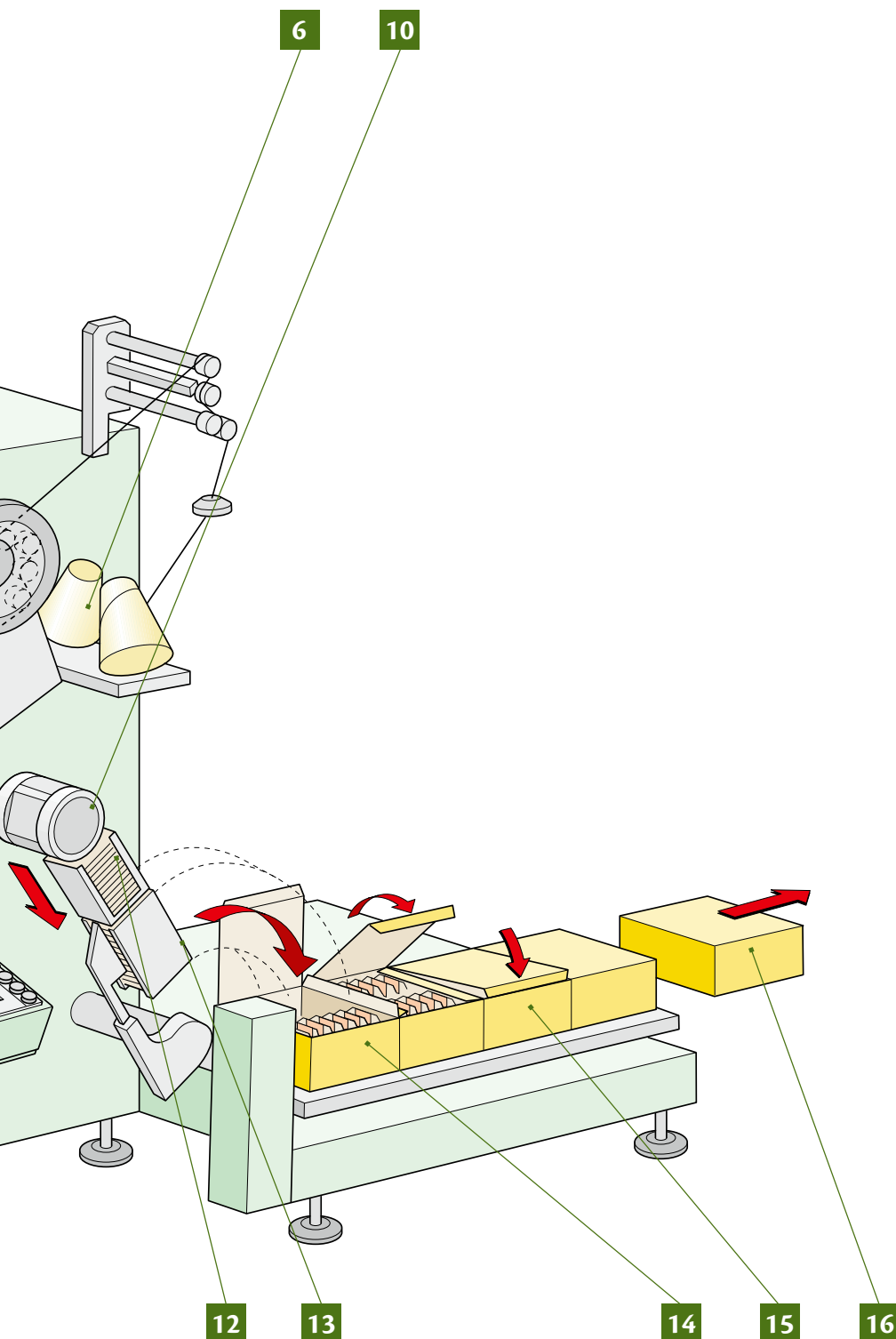
mechanical single bag rejection

WHY A C24-T

- NO METAL STAPLE
- NO HEATSEALABLE FILTER PAPER
- HIGH PRODUCTION SPEED : UP TO 400 BAGS PER MINUTE
- EASY INTEGRATION IN TO EXISTING PRODUCTION LINES
- HIGH PROCESS CONTROL
- MECHANICAL SINGLE BAG REJECTION
- HARD TAG
- NO LUBRICATION
- EASY ACCESSIBILITY TO MACHINE OPERATING GROUPS
- EASY PART REPLACEMENT, NO ADJUSTMENTS REQUIRED
- REDUCED SPARE PARTS CONSUMPTION
- HIGH PRODUCTION EFFICIENCY
- PACKAGING MATERIAL SAVINGS

C24-T STEP BY STEP





MAIN FUNCTIONS

1. FILTER PAPER REEL
2. FILTER PAPER
WALIGNMENT CONTROL
3. PRODUCT FEEDING AND DOSING
4. FILTER PAPER TUBE FORMING
AND CUTTING
5. BAG FORMING WHEEL
6. COTTON THREAD COIL
7. TAG PAPER REEL
8. TAG PAPER UNWINDING
AND CUTTING
9. KNOT GROUP
10. STACK FILLING WHEEL
11. FAULTY BAG REJECTION
12. FILTER BAG STACKING
AND COUNTING
13. STACK TRANSFER TO THE
CARTON FILLING AREA
14. STACK INSERTION
INTO THE CARTON
15. CARTON CLOSING STATION
16. CARTON EXIT

C24-T THE NEW CLASS OF FILTER BAG



Filter bag tube forming, cutting and erection



Introduction into the main transfer wheel while the cotton thread is wound around the bag itself



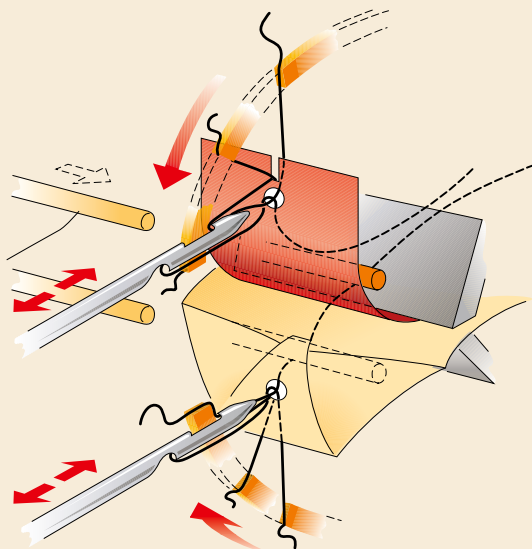
Tag paper feeding, cutting and positioning on the filter bag

ONLY A KNOT

IMA's filter bag is aimed at combining both tradition and innovation resulting in the most appropriate answer to the world-wide market demand. The revolutionary idea of the C24-T filter bag, based on a traditional non heat sealable double chamber bag, guarantees optimum infusion efficiency enabling the natural tea aroma to flow out.

No metal staple or additional packaging materials are required to fix the bag to the tag and the cotton thread. Fixing is achieved by two simple knots - one to fix the cotton thread to the filter bag head and the other to fix the cotton thread to the tag. This innovative feature avoids the presence of metallic material during infusion, whilst

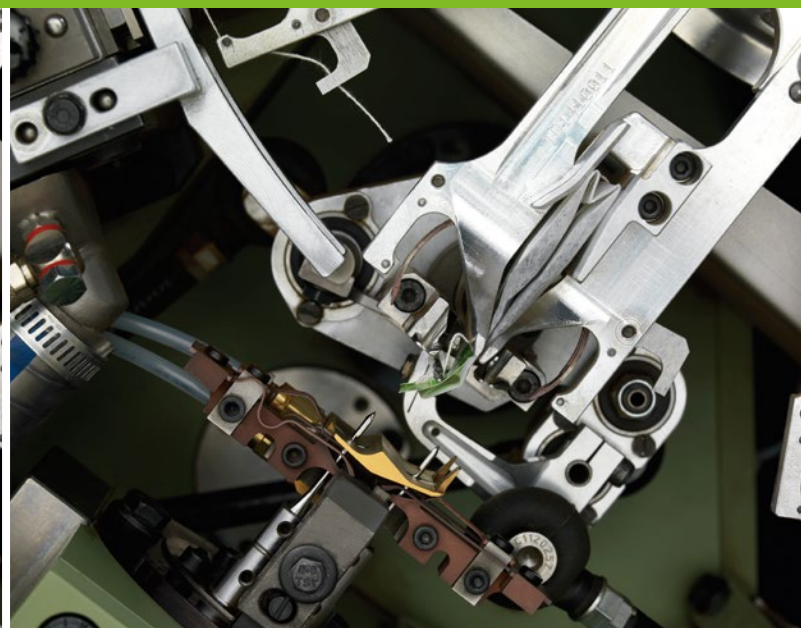
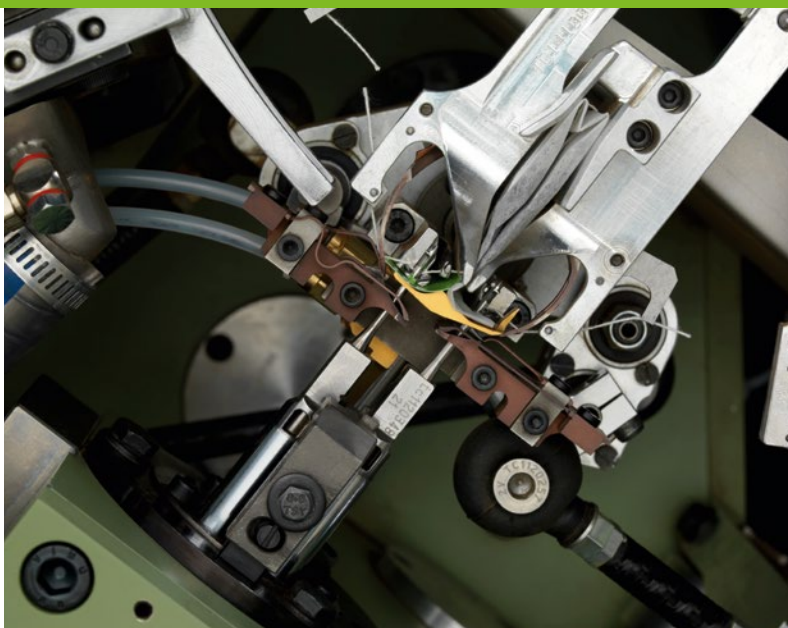
guaranteeing, at the same time, a discerning and functional filter bag. According to IMA's versatility and flexibility traditional concept, the C24-T offers a wide range of filter bag sizes to suit all product specifications and market demand.



Three synchronised movements to achieve perfect knotting

NO ALUMINIUM STAPLE

- ECOLOGICAL PRODUCTS
- NATURAL INFUSION
- A WORTHWHILE SAVING IN PACKAGING MATERIAL OF APPROXIMATELY 1 TON PER YEAR PER MACHINE



IMPROVED SPEED

IMA combines top performance and top quality filter bags achieving a maximum production speed of 400 bags per minute. By focusing on the optimization of the geometry of motion with the aim to improve control in certain strategic production phases, IMA has succeeded in increasing speed thus guaranteeing the same product quality at higher efficiency.

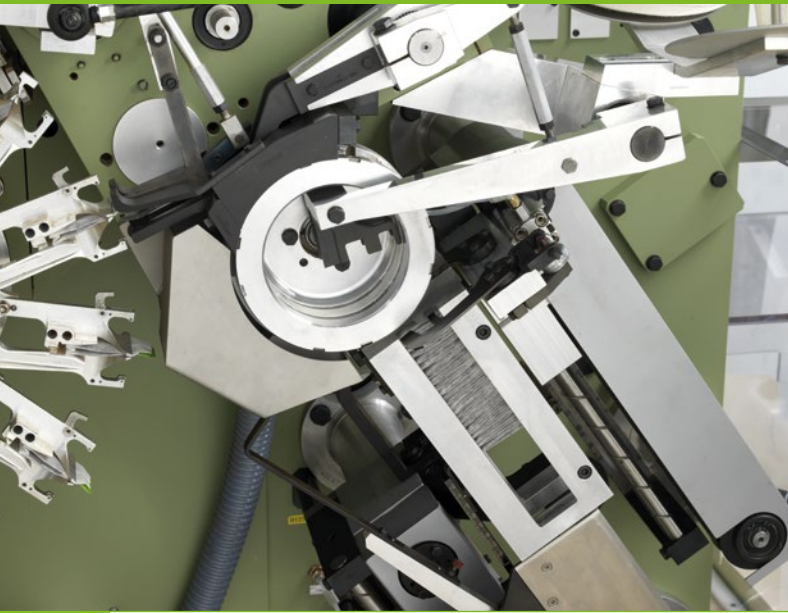
THE PROCESS

The simple knots that allow the fixing of cotton thread to filter bag and tag are performed by a highly sophisticated group that has been designed and tested by the IMA Research & Development Department. Both knots, on the filter bag and on the tag, are performed simultaneously on the same station and are achieved through synchronised movements of three mechanical elements controlled by cams. The successful knotting is controlled by a high precision video camera, based on an artificial vision work system and connected to the operator panel which allows constant observation of the function. Any knot which does not correspond to the prearranged model is highlighted and memorised and consequently causes the rejection of the single bag without introducing it into the stacking station.



KNOT OPERATION: COTTON THREAD FIXING TO THE TOP OF THE FILTER BAG AND TO THE TAG.

C24-T A CHOICE OF PACKAGING SOLUTIONS



Filter bag counting and stacking



Stack introduction into the pre-erected carton

AUTOMATIC CARTONING ATTACHMENT FOR PRE-ERECTED CARTONS

To complete the whole production cycle, the C24-T can be equipped with a simplified automatic cartoning attachment for pre-erected cartons able to pack from a minimum of 15 to a maximum of 100 naked bags on four rows (production speed: maximum 30 boxes per minute).

The simplified cartoning attachment receives pre-formed cartons from a conveyor belt, fills them with a predetermined quantity of naked bags and, if required, closes them.

Each filter bag is picked up from the central wheel by means of a mechanical pincer, transferred, by means of a second wheel, to a stacking station and counted. The whole stack is then inserted into the carton by means of a rotating movement and, if required, the carton is closed and transported to the exit.

The cartoning attachment is able to fill a variety of pre-erected carton styles:

- Tuck-in carton
- Kurzlaschen carton
- Caddy style cartons
- Tear strip carton
- Open trays

Carton closure is available for simpler packaging solutions such as:

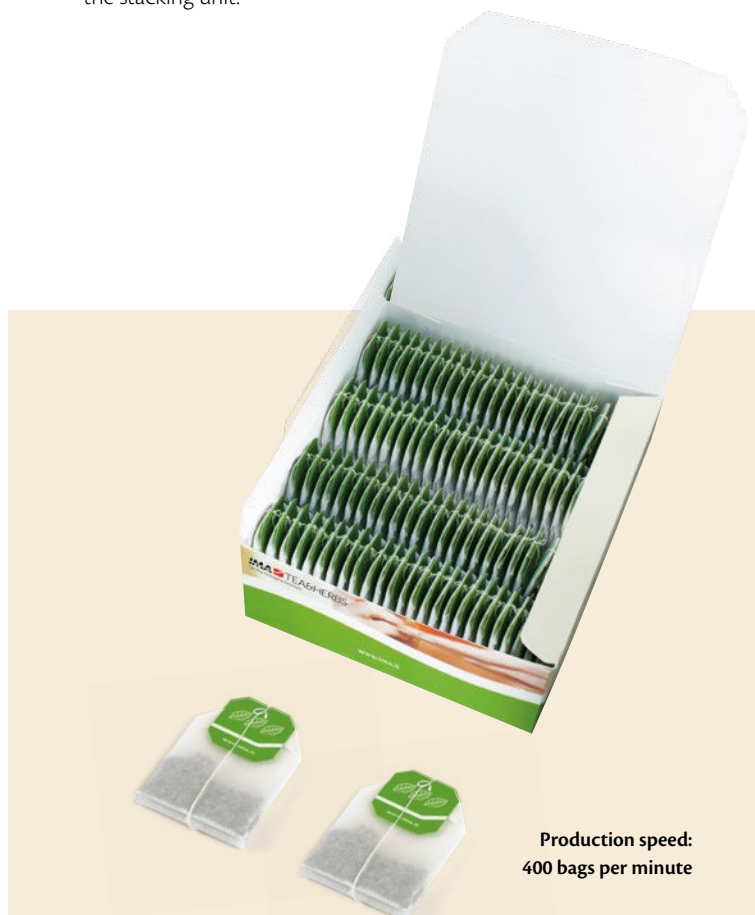
- Tuck-in carton
- Kurzlaschen carton
- Caddy style cartons with already pre-formed and glued closing lids

The cartoning attachment can be completed with the following additional groups:

- cardboard divider unit
- leaflet inserter

THE ADVANTAGE OF ELECTRONICS: FROM COUNT TO COUNT

The IMA C24-T achieves the greatest versatility in the design of its new counting and stacking units. Stacking is controlled by independent motors which allow a swift electronic count change over avoiding completely the need of any part replacement and guaranteeing always the correct number of bags or envelopes in the stacking unit.



Production speed:
400 bags per minute



Stack introduction into the carton and flap closing



Simplified cartoning attachment for pre-erected cartons

TEAR STRIP CLOSURE CARTON

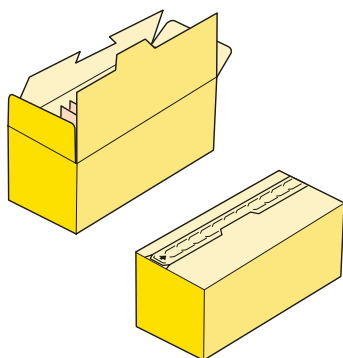
The Tear Strip Closure carton offers a tamper proof security as well as a re-closable solution. This carton style requires no overwrapping, therefore guaranteeing additional cost saving.

KURZGLASCHEN CLOSURE CARTON

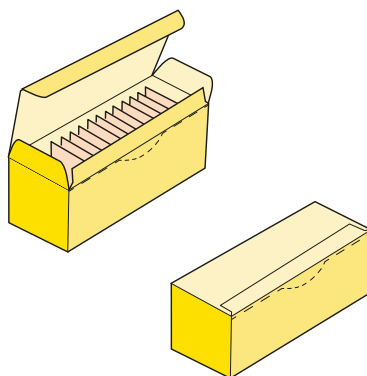
The Kurzglaschen Closure carton offers a tamper proof security as well as a re-closable solution. This carton style reduces cardboard consumption and does not need overwrapping, therefore guaranteeing additional cost saving.

CADDY CLOSURE CARTON

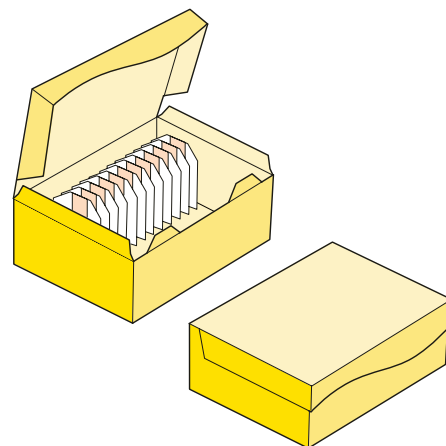
The Caddy Closure carton represents the perfect solution for a more stylish and appealing final package. This carton is re-closable and remains intact after opening. It is completely ideal for personalization.



Tear strip closure carton



Kurzglaschen closure carton



Caddy closure carton

C24-T UTMOST FLEXIBILITY

INTEGRATION WITH EXISTING PRODUCTION LINES

The new C24-T fits perfectly into existing packaging lines thanks to the simplified partial cartoning unit allowing the filling of previously erected cartons that can be automatically closed on the machine for a ready to go package.

The great flexibility of this packaging unit, also allows the carton closure to be achieved on a separate end of line closing unit according to specific production needs.

CONNECTION TO DOWNSTREAM UNITS

Particular attention is paid to the fundamental opportunity of connecting the new C24-T to downstream units for end of line packaging. A simple set-up is foreseen for signal transmission between the machines.

HIGH PRODUCT QUALITY GUARANTEED

Despite the simplified machine configuration, the new C24-T encompasses the best technical solutions to constantly control the entire working cycle guaranteeing higher efficiency and a fully reliable product quality.



Carton exit



C24-T TOP PRODUCT QUALITY



MECHANICAL SINGLE BAG REJECTION

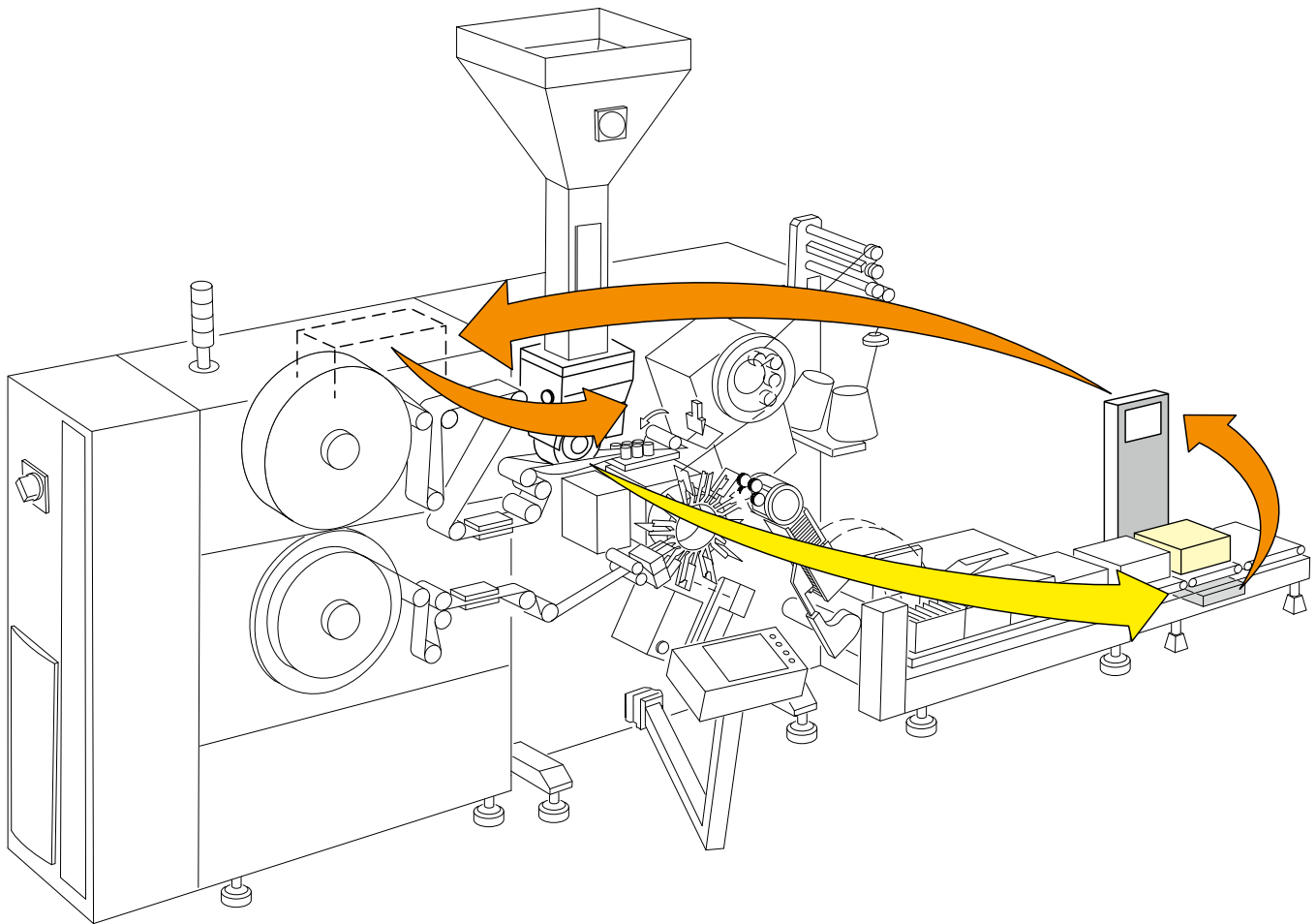
Prior to entry into the stacking unit, the revolutionary use of a sophisticated video camera, connected to a monitor which controls the correct knotting on both filter bag and tag, permits the rejection of single bags which do not correspond to the prearranged quality standards. The rejection of single bags is now achieved by a fully mechanical system guaranteeing a user-friendly solution avoiding operator intervention to remove bags. This innovative solution reduces compressed air consumption and the presence of tea dust on the machine.

Thanks to the innovative independent motorization system, the counting of filter bags is automatically stopped, a correct bag is retrieved to complete the required count and production flow proceeds smoothly without any interruption. This unique system guarantees the highest product quality and at the same time contributes to savings in packaging material and machine efficiency increase.

MOTORIZATION

The C24-T is provided with independent motorizations synchronised with specific cards for axis control. The strength of this innovative system is most emphasised in the count and carton size change over functions, where the motorizations provide for a quicker and safer operation assuring maximum production efficiency.

C24-T TOP PRODUCT QUALITY



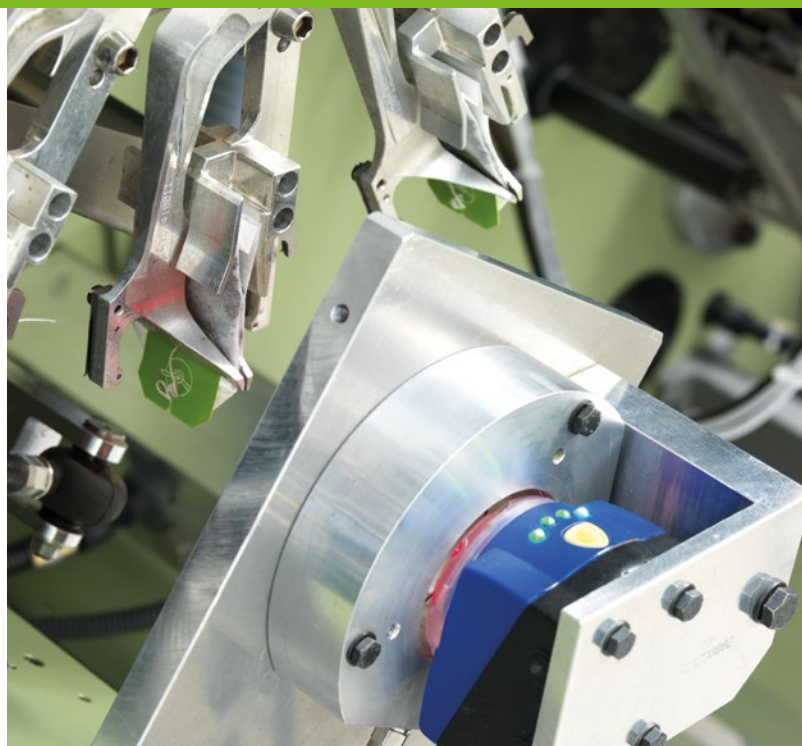
SET-UP FOR AUTOMATIC WEIGHT CONTROL AND ADJUSTMENT

The C24-T can be fitted with a "simple plug" suitable for connection to a downstream dynamic checkweighing unit (not integrated on the C24-T).

The final carton weight can be controlled on the checkweigher and automatically adjusted thanks to the automatic weight control and adjustment system.

PROGRAMMABLE CONTROL

The whole working cycle logic and quality control are achieved by a PC, software compliant with the IEC 1131-3 standards. The use of a PC, as an alternative to a PLC system, represents a great advantage towards the risk of obsolescence and consequent need for spare part replacement and software update. All main machine stations have been provided with a specific product control device to guarantee the maximum product quality. All main functions can be easily controlled by the operator on the push-button panel. Production efficiency is kept at the highest level as most of the controls do not stop the machine, but automatically reject the faulty product (single filter bag).



THE ELECTRONICS

Video camera to control the correct knotting on both filter bag and tag.

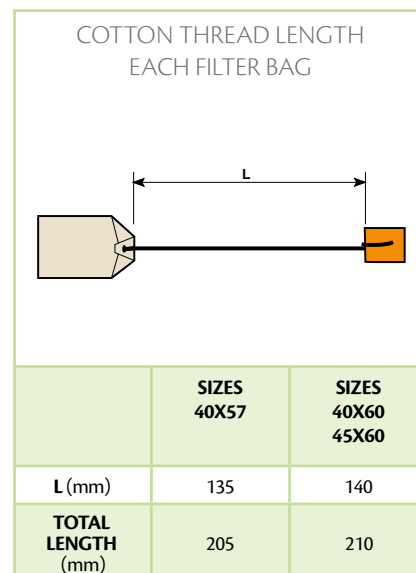
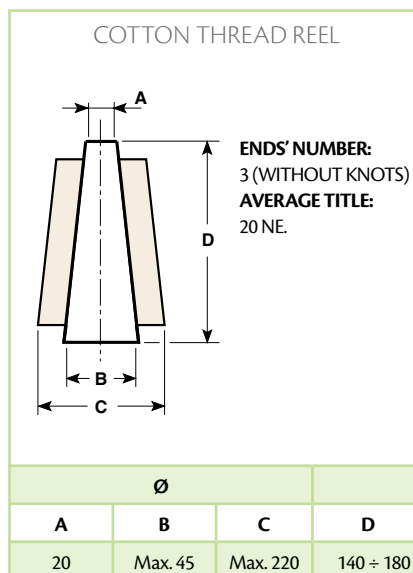
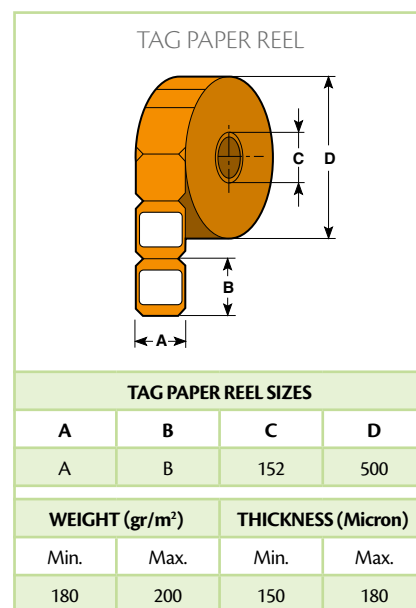
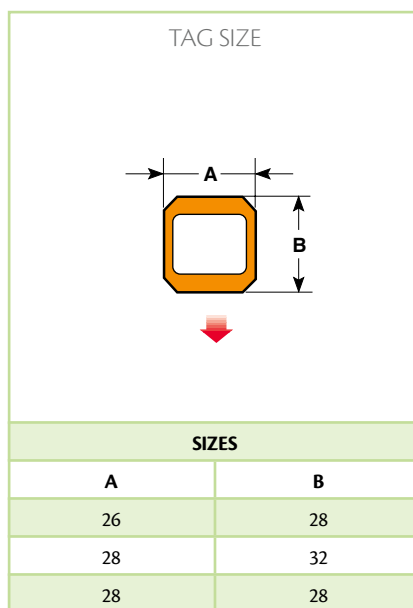
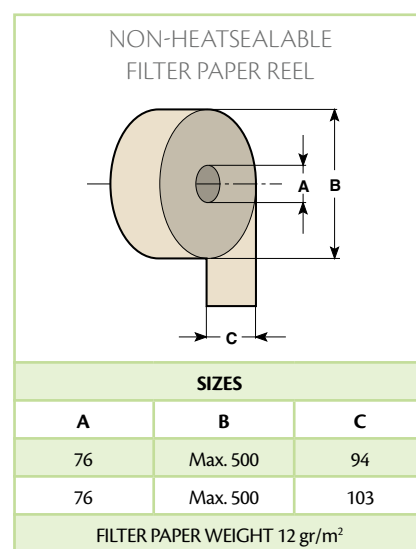
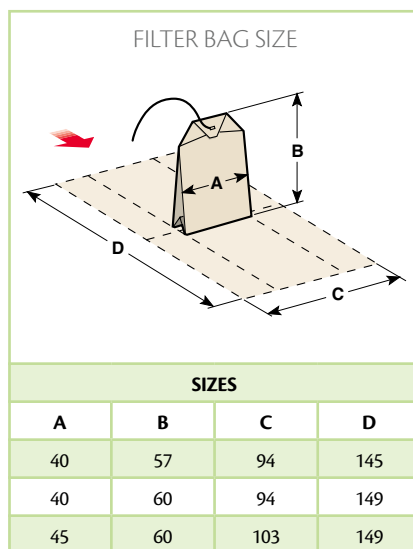


COOLING DEVICE FOR ELECTRICAL CABINET

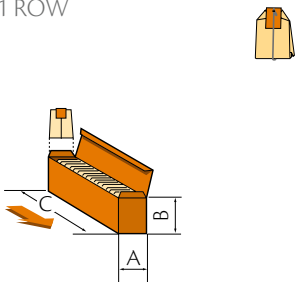
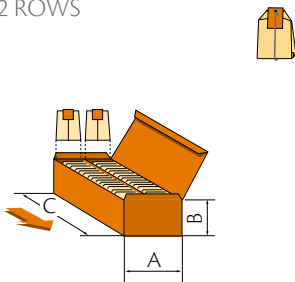
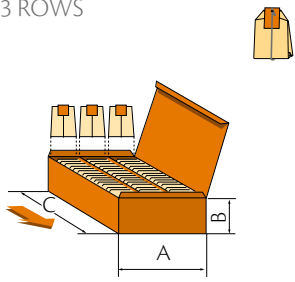
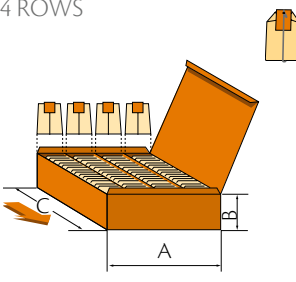
With the aim to improve and extend the life of the electronic components by reducing the presence of fine dust inside the electrical cabinet, the new C24-T has been fitted with a cooling system avoiding the use of fans.

This innovation also guarantees a reduction in maintenance times for regular filter cleaning and replacement.

PACKAGING MATERIALS AND PRODUCT SPECIFICATIONS

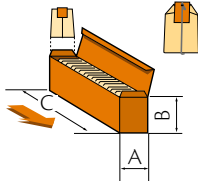


CARTON DIMENSIONS FOR T13 CARTONING ATTACHMENT FROM 1, 2, 3 TO 4 ROWS OF BAGS

1 ROW			2 ROWS			3 ROWS			4 ROWS		
											
	MIN	MAX		MIN	MAX		MIN	MAX		MIN	MAX
A	42	50	A	84	100	A	126	150	A	168	200
B	60	72	B	60	72	B	60	72	B	60	72
C	100	205	C	100	205	C	100	205	C	100	205

CARTON DIMENSIONS FOR T13 CARTONING ATTACHMENT FROM 1 ROW OF BAGS IN OPEN TRAY

1 ROW



	MIN	MAX
A	42	50
B	40	72
C	100	205

CARTON SPECIFICATIONS FOR CARDBOARD DIVIDERS FOR T13 CARTONING ATTACHMENT FROM 1, 2, 3 TO 4 ROWS OF BAGS

CARTON SPECIFICATIONS	
WEIGHT	350 gr/m²
THICKNESS	± 0.40 - 0.50 mm
A	30 or 45
B	90 ÷ 195

C24-T GENERAL TECHNICAL DATA

**Machine speed:**

- Up to 400 naked bags/minute

**Teabag capacity:**

- Up to approximately 3,0 grams
- Filter bag maximum volume 9,5 cubic centimeters

**Power required:**

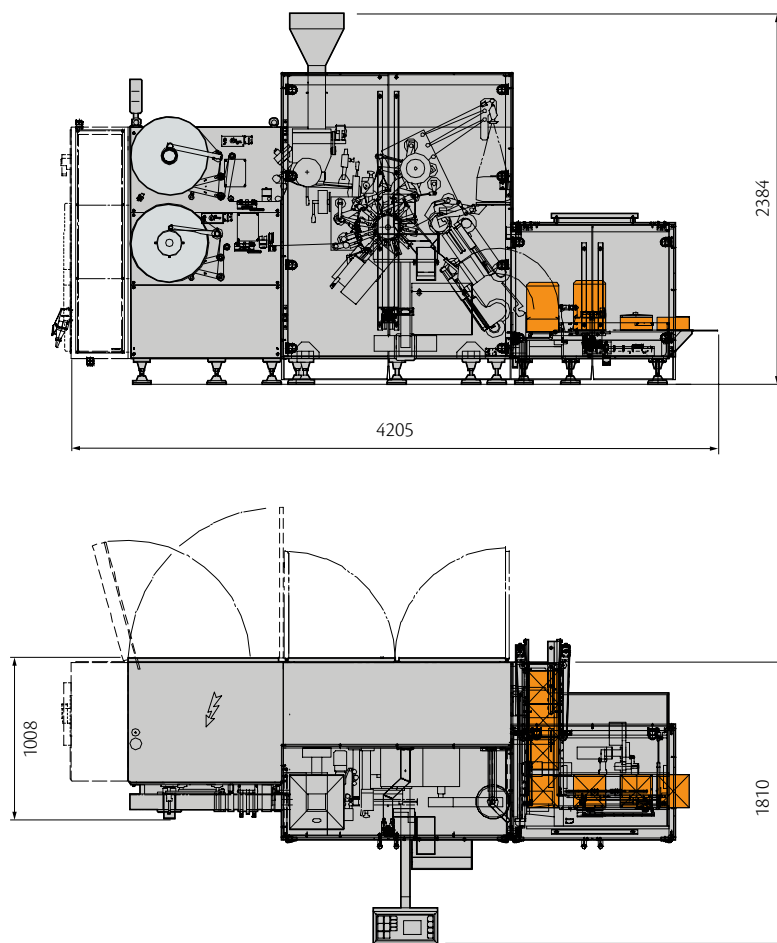
- Total installed power: 17 kW
- Average power consumption: 2,8 kW
- Maximum power consumption: 3 kW

**Compressed air:**

- Exercise pressure: 6 bar
- Consumption: up to max. 370 NI/min.

**Machine net weight:**

- IMA C24-T with cartoning attachment: maximum 3200 kg



MACHINE OVERALL DIMENSIONS WITH TI3 CARTONING ATTACHMENT
FROM 1 TO 4 ROWS OF BAGS

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