

# Carton and Appliance Clamps

Range and Options



KS-C Model



## Experience the new way to handle your white goods! See the range.

Carton Clamps are designed for palletless load handling and are recommended in locations where large amounts of products are packed in carton boxes, such as in factories, warehouses and forwarding companies.

The BOLZONI carton clamps are extensively used for the handling of "white goods", such as washing machines, refrigerators, microwave ovens, televisions and for the handling of other types of materials packed in cardboard boxes. Thanks to the palletless handling, the carton clamp allows the optimization of warehouse storage space and reduction of the costs for packaging materials. Home appliance and carton clamps can have several pad versions, to fit different handling applications, such as single oscillating pads on both arms, both arms rigid. Available also as 360° rotating version.

### KS-C: Single or double oscillating pad

Version with Single or double oscillating arms for big load configurations (until 30 washing machines at the same time)



### KS-C with Force Balance: Single oscillating pad

Version with FORCE BALANCE single oscillation granting perfect clamping force equalization for very high level of handling differentiation.



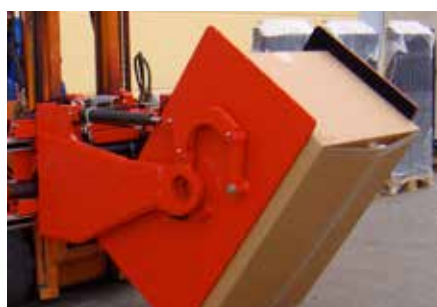
### KS-CF: Both arms rigid/ No oscillation

Version with rigid arms for single and/or limited picking (small number of units) configurations, this type of clamp is used very often also in the isolating material and styrofoam handling industry.



### 3-24: Front tilting version

Version with tilting arms to fully exploit the container height, typical of the refrigerators industry.



### Four Point Clamping Force Tester

BOLZONI can count upon a complete set of additional tools and devices to control the clamp configuration also after a long period of use.

The dedicated 4 points clamping force tester allows the monitoring of the distribution of forces over the 4 areas/ corners of the pads.



### Visibility, productivity, safety with the KS-C series Carton Clamp

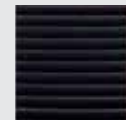
The KS-C represents a state of the art equipment for all white goods manufacturers, logistic operators and 3PLs who want to grant a totally damage free handling with forklift trucks of refrigerators, washing machines, ovens and all items packaged in cardboard boxes.

The new KS-C model BOLZONI carton and appliance clamps incorporate new technical features able to guarantee safe and efficient handling together with easy installation and longer lifetime:

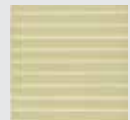
- Very rigid frame structure with single piece double "T" profile. Wide visibility window thanks to new chassis design, granting safe and easy handling operations.
- Large surface alluminium pads to reduce the total weight of the clamp and to maximize the residual capacity of the lift truck.
- Special high-friction vulcanized rubber lining increases positive grip allowing safe and damage-free handling; different arm coating on request;
- Interchangeable left-right up-down pads for more even rubber wear and reduced maintenance costs;
- Thin arm profiles (chamfered at the tip to obtain very limited thickness) and new design pad supports allow easy knifing between loads.
- Pad supports with robust design and varying height for an optimized distribution of the clamping force (exact distribution of clamping force over the 4 pad's corners tested at the end of the production line with 4 point dynamometer);
- New fixing system of the sliding pads to relief stress.
- New self-aligning cylinder fixing to avoid breakage.
- Integral sideshift.
- Flow divider to grant perfect arms synchronization.
- Available also in the pallet handling configuration: lowered cylinders and replaceable 150 mm high bottom rubber tiles.

#### The right pad coating for every load

Contact pads are the most important part of the clamp attachment. In most normal handling situations, the pads are the only parts of the clamp which actually are in contact with the packaging. Therefore, Bolzoni has paid special attention in designing and manufacturing contact pads which will ensure a safe and non-damaging white goods handling.



Standard striped  
Vulcanized black



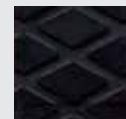
Standard striped  
Vulcanized white



Structured  
rubber



Remagrip



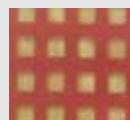
Diamond shaped  
Black



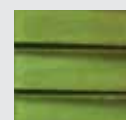
Diamond shaped  
White



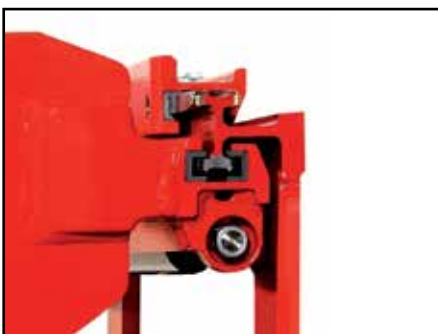
Cellasto



Secutex



Secutex with  
foam rubber



### Innovative solution to damage free handling with correct clamping force: the Easy-Move intelligent carton and appliance clamp model.

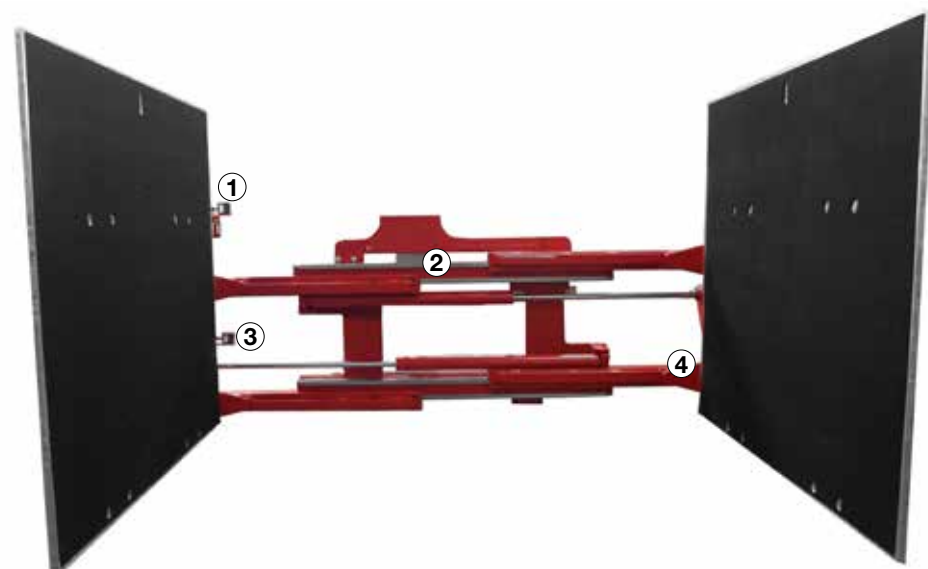
In the white goods industry the handling problems caused by the use of incorrect clamping force can create serious risks of products damaging: insufficient pressure results in the product being dropped, while too much pressure can crush or damage the package and its content.

BOLZONI integrates standard technical features of the KS-C model carton clamp with the most advanced technology in hydraulics, electronics and laser sensors for clamping force controlling.

**The new intelligent system is an electronic control of the clamping force**, driven by the number and dimensions of the unit loads which have to be handled. The laser sensors and the electronic micro-control allow the system to detect the load and input the correct clamping pressure through a proportional pressure relief valve.

The micro-control can be managed by a BOLZONI configuration tablet. Through an easy procedure (touchscreen based) the operator can adjust the handling load parameters, recalibrate the sensors if necessary, associate the opening ranges to the required pressure levels. It is also possible to recalibrate the pressure levels in case of introduction of new loading schemes and finally to switch to single pressure manual mode. BOLZONI Easy-move system is providing outstanding benefits to all the operators of the logistic chain in white goods (end users, 3PLs, forklift truck providers):

- Completely **automatic system** with no responsibility left to truck drivers for wrong pressure choice; the truck drivers are not even allowed to interfere with clamp parameters that are factory set and – only if necessary – modified by forklift trucks provider and/or end user's logistic experts;
- The clamp can be used as a conventional clamp with **no need of further training for truck drivers** or additional truck driving operations;
- **User friendly set up** interface thanks to easy software graphics and possibility to use Bolzoni set up tablet: it is easy to load new configuration schemes;
- **Very low TCO** (total cost of ownership) due to complete clamp and laser sensors protection: the sensors are located behind the load encapsulated in the chassis design and they are never touched or hit by the load
- Very **easy electrical connection** to truck ports thanks to spiral cable included in the package;
- In case of any type of clamp emergency the software allows easy switch to manual mode avoiding all possible stops in handling procedures.



**① Laser detector**  
Laser sensor for upper row to detect presence of boxes in the upper part of the pads.



**② Proportional valve**  
Commands the hydraulic pressure in the clamping cylinders.



**③ Depth load engagement sensors**  
Detect type and configuration of the load in depth/height and the distance from the clamp body.



**Set up Tablet**  
Controls the parameters of the pressure configuration based on opening ranges.



**④ Opening laser sensor**  
Detect the opening of the arm and position of the arm