Home Appliances Damage Prevention Systems

The most advanced technology in hydraulics, electronics and laser sensors for damage prevention and clamping force control



BOLZONI

Four-Stage Pressure-Relief Valve (manually controlled)

Manually controlled four-stage pressure relief valve. Specially recommended to be used in combination with , carton clamps and sensitive loads. Adjustable pressure settings with the possibility to configure 3 different pressure stages plus the bypass pressure from the truck.





Four-Stage Pressure-Relief Valve (electrically controlled)

Electrically controlled four-stage pressure relief valve. Easy clamping pressure selection from the lift truck cabin. Specially recommended to be used in combination with carton clamps and sensitive loads. Adjustable pressure settings with the possibility to configure 3 different pressure stages plus the bypass pressure from the truck.





Pressure-Control Lights

To be used in combination with electrically controlled four-stage pressure relief valve.
Lights in the light tower indicate the selected pressure setting.




Easy-FORCE-C (Force control System)

The Bolzoni Easy-FORCE-C clamping force control system is the ideal solution in the white goods applications and specifically for big logistic services handling several types of loads and volumes that require different clamping forces.

The Easy-FORCE-C system enables the truck driver to easily select the clamping force according to the load category, type and configuration. Through a touch screen the driver selects the handing load and the pressure parameters are automatically set into the clamp to generate the correct clamping force.

Product handling configuration
On the 7” touch screen monitor the truck driver selects the product type icon, in a very intuitive way, and the product configuration, that is how the load is composed.
As the device has got all information by the operator, it enters into action setting the correct pressure in the clamp. After the load has been safely positioned and the handling is finished, the truck driver opens the clamp arms. It is now possible to quickly reselect the same product handling configuration, or to restart the selection process for a new load configuration.

Remote handling data management
This device is very helpful to fleet managers as well, as it enables to access the load handling data in remote.
In facts, thanks to a web-server interface, it enables to access, via smartphone, tablet or pc in real time the handling data: GPS geolocalization, data tracking. All data are accessible to the fleet manager, and can be stored in a database, with cripted access (https).
E-mail or sms notifications can be set for warnings or for maintenance schedule management.



Easy-MOVE Laser Sensors System

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 the 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 to provide the most advanced solution for Logistic Managers in Home Appliances manufacturers Inbound warehouses and 3PLs.

Easy-MOVE 4.0 is a **FULLY WIFI CONNECTED** and automatic electronic clamping pressure control system for damage free handling in white goods logistic, based on the association of the detected load between the arms with the correct cylinders pressure to properly grip the units without any exceeding force. Different to all competitors **Easy-MOVE 4.0** also provides an **advanced light signal driving assistance** technology enabling also the most unexperienced truck drivers to handle all sorts of washing machines, refrigerators, ovens, dishwashers and general consumer products without any damage.

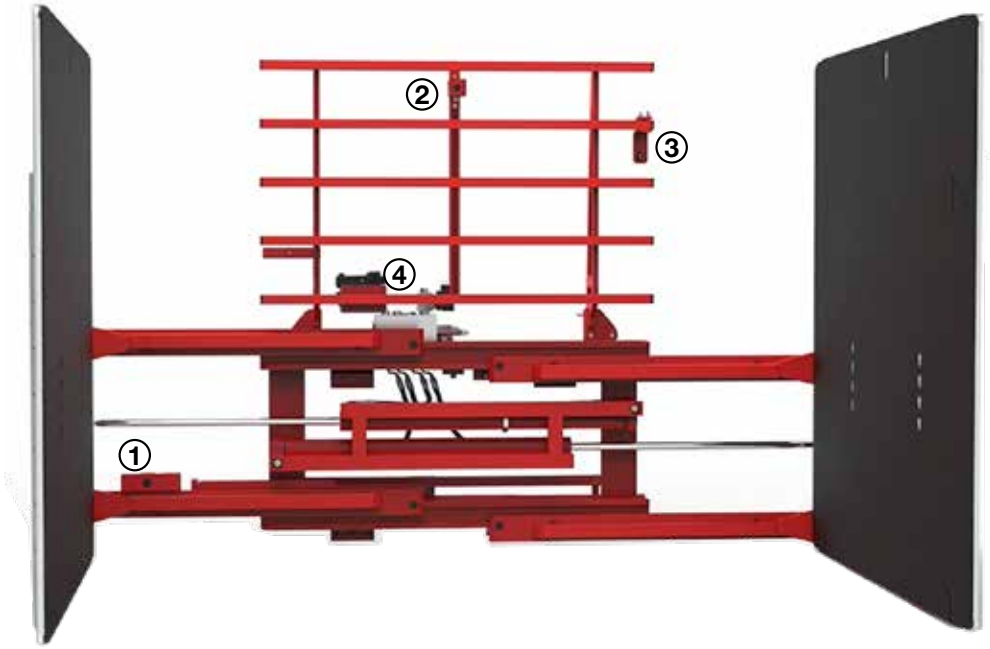
The laser sensors and the electronic micro-control allow the system **to detect the load and input the correct clamping pressure** through a proportional pressure relief valve. The Central Processing Unit (CPU) of the clamp **can easily be controlled from remote** through the Bolzoni dedicated portal and the accuracy of the input in bars is granted by the pressure sensor measuring the hydraulic at the end of the CPU input.

With its own credentials the Logistic Manager and/or the truck provider can adjust the handling load parameters, recalibrate the sensors if necessary, associate the opening ranges to the required pressure levels and have a real time monitoring of the clamp performances and productivity.
3PLs can easily print their **online report** showing perfect correspondence between product handling and manufacturers' force guidelines.

The remote monitoring function includes also a **remote diagnosis** dashboard that allows Bolzoni Group service organization to immediately intervene on the clamp set up and have a detailed view of the clamp's parameters.
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.

Recap of the system USPs:

- FULLY AUTOMATIC SYSTEM
- TOTAL LOAD DAMAGE PREVENTION
- INDEPENDENT FROM TRUCK DRIVERS LACK OF EXPERIENCE
- THE ONLY FULLY WIFI CONNECTED CLAMP
- TOTAL CLAMP / PRESSURE / FORCE REMOTE CONTROL
- LOWER TCO THANKS TO TOTAL PROTECTIN OF ELECTRONIC COMPONENTS
- HIGH PRESSURE ACCURACY DUE TO PRESSURE SENSOR AND CLOSED LOOP
- DIAGNOSIS / REPORTING / DOWNLOADABLE FILES





① **Laser sensors to detect the load and the opening range of the arms.**



② **Laser sensor to detect the presence of the load in height.**



③ **Lamp for fast feedback on clamp functioning.**



④ **Gateway to share data on web interface.**

ForceBalance Pad

The new Bolzoni ForceBalance System allows perfect distribution of the clamping force over the pads' surface thanks to the user friendly registration of 4 thread screws that impact on the arm camber. Positioned in the 4 corners of the arm carrier the screws can be easily adjusted to make the clamp perfectly suitable for all specific handling configurations. The ForceBalance Pad alining system provides a completely damage free solution for the load.

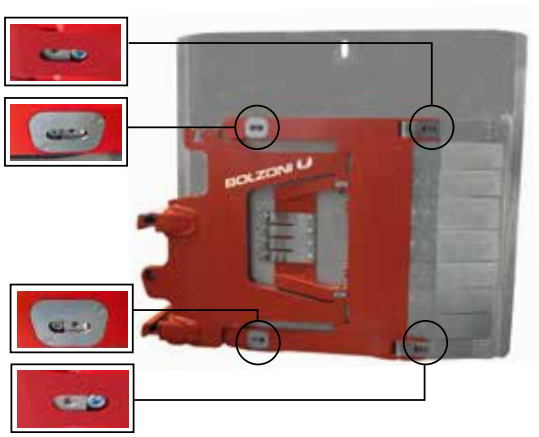


The system is designed to keep the very thin arm profile with tapered leading edge of the conventional clamps adding the ease of the force distribution control. Thanks to the front elastic elements no gap and additional arm thickness is created while adjusting and regulating the screws. By adjusting the four screws, the elastic elements are deformed. This enables to reach the perfect panel protrusion to match the load handling application.
This innovative and intuitive mechanical device makes life easier for every truck driver who wants to grant optimum clamping force every time and ensures the following technical advantages.

ForceBalance Pad main features:

- Extremely fast operation
- No need of special tools for the operation of regulation
- No need of additional shims to impact on the force distribution
- No additional arm thickness
- Always correct approach to the load for a damage free handling
- No gap between arm carrier and aluminium panel

The ForceBalance pad regulation system is an international patent of Bolzoni.



4 Point Clamping Force Tester: Easy MEASURE

Bolzoni, as primary expert of the industry sector, with 70 years experience and know-how of the specific handling procedures in white goods, enlarges its proposal with a complete service back up and check for correct clamp configuration.
Bolzoni 4 Point clamping force tester – based on load cell technology - is able to measure the single force acting on each point, to calculate the total clamping force developed on the whole pad surface and to detail the exact percentage of force acting on each point. The device can be adapted to various pad dimensions as the positions of the measuring points are adjustable.
The user friendly LCD interface of Bolzoni 4-Point tester allows the saving of the current values and the acquisition of all the data from remote (IOT technology).













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