



***Technical Specification  
KeyKeg Slimline 10, 20 and 30 Liters  
KeyKeg Baseline 20 and 30 Liters***



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| Materials  | Baseline 20                          | Baseline 30 | Slimline 10 | Slimline 20 | Slimline 30 |
|--|--------------------------------------|-------------|-------------|-------------|-------------|
| Inner bag  | Alufoil laminate, 69 µ thickness     |             |             |             |             |
| Closure  | Glass fibre reinforced PA            |             |             |             |             |
| Valve  | PE/PP                                |             |             |             |             |
| Sealings   | SEBS compound                        |             |             |             |             |
| Flow Strip   | PE                                   |             |             |             |             |
| Container  | PET                                  |             |             |             |             |
| Secondary packaging  | Corrugated board with PE shrink foil |             | PET         |             |             |
| Grip   | n/a                                  |             | Recycled PP |             |             |
| Basecup  | n/a                                  |             | Recycled PP |             |             |
| All Materials in food contact are approved according regulations FDA 21 CFR 177.1520, EC 1935/2004 and EU 10/2011 or further amendments. |                                      |             |             |             |             |

| Dimensions **  |                              |                             |                              |                              |                             |
|--|------------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|
| Diameter   | 356 mm (14")                 | 400 mm (15 3/4")            | 240 mm (9 7/16")             | 240 mm (9 7/16")             | 300 mm (11 13/16")          |
| Height   | 377 mm (14 27/32")           | 434 mm (17 5/64")           | 330 mm (13")                 | 572 mm (22 7/16")            | 572 mm (22 7/16")           |
| Weight   | 1.0 kgs - 2.20 lbs (US)      | 1.4 kgs - 3.09 lbs (US)     | 0.82 kgs - 1.8 lbs (US)      | 1.2 kgs - 2.66 lbs (US)      | 1.5 kgs - 3.31 lbs (US)     |
| Volume (2 bar, 29 PSI ± 1%)  | 20.2 liters<br>5.34 gal (US) | 30.3 liters<br>8.0 gal (US) | 10.1 liters<br>2.67 gal (US) | 20.2 liters<br>5.34 gal (US) | 30.3 liters<br>8.0 gal (US) |
| <b>Fitting :</b> The KeyKeg features its own patented valve system for reasons of safety, cost-effectiveness and reliability. To operate the valve, a KeyKeg Coupler with safety valve and modified probe is required. |                              |                             |                              |                              |                             |

| Shelf Life                              |  |                   |   |                     |                    |
|---|--|-------------------|---|---------------------|--------------------|
| Empty KeyKeg                            | 18 months  |                   |   |                     |                    |
| Filled KeyKeg                           | Depending on filled product, on average 9 months minimum |                   |   |                     |                    |
| O2 pick-up per 6 months                 | <0.3 mg / l (ppm)  | <0.2 mg / l (ppm) | < 0.3 mg / l (ppm)                      | < 0.25 mg / l (ppm) | < 0.2 mg / l (ppm) |
| CO2 loss per 6 months                   | < 7%   | < 5%              | < 7%                                    | < 7%                | < 5%               |
| Maximum internal pressure (carbonation) | 4.0 bar at 40 °C<br>(5.1 g/l / 2.5 Vol)                  |                   | 6.0 bar at 40 °C<br>(7.1 g/l / 3.5 Vol) |                     |                    |

| Mechanical/Physical Properties |   |
|--------------------------------|---|
| Temperature range              | 0-40 °C - 32-104 °F   |
| Max. dispense pressure         | 3.5 bar - 51 psi  |
| <b>Disposal</b>                | 100% compliant with the essential requirements of the EU Directive 94/62/EC. KeyKegs are designed to have low impact on the environment. The material use is low and the applied materials are very environmentally friendly. |

\*\* Dimensions on technical drawings are standard.



## KeyKeg Transport and Storage Recommendations

### Background

An important issue to consider when transporting beer or sparkling wine is the pressure necessary to keep the CO<sub>2</sub> dissolved, known as equilibrium pressure. It depends mainly on two aspects: the CO<sub>2</sub> content of the beer (or wine) and its temperature. The CO<sub>2</sub> content differs for various types of wine or beer, see table 1.

| Type                         | CO <sub>2</sub> content (g/l) | Equilibrium pressure at 20°C (68 °F) |           |
|------------------------------|-------------------------------|--------------------------------------|-----------|
| English ale                  | 3.0-5.0                       | 0.8-2.0 bar                          | 12-29 psi |
| “frizzante” wine             | 3.0-5.0                       | 0.8-2.0 bar                          | 12-29 psi |
| Lager beer                   | 4.5-5.0                       | 1.6-2.0 bar                          | 23-29 psi |
| German wheat beer (“Weizen”) | 5.5-7.0                       | 2.2-3.2 bar                          | 32-46 psi |
| Champagne                    | 8.0-9.0                       | 3.8-4.4 bar                          | 55-64 psi |

### Transport Risks

Because a temperature increase leads to a pressure rise inside the vessel, temperature is an important factor. Therefore the content’s temperature during transport should be controlled and should not rise too much.

In steel sea containers, without temperature conditioning or insulation, temperatures can easily rise to 40°C (104°F) and higher. The consequences of these temperature fluctuations depend on the CO<sub>2</sub> content. Products with a lot of CO<sub>2</sub> can reach pressures over 4 bars (58 psi), which is above the design limits of the KeyKeg Baseline and can damage it. The KeyKeg Slimline is better suited for higher pressures, but these kegs may also get damaged when exposed to high temperatures for a prolonged time.

Users should be aware of this risk. If KeyKegs are to be used, carbonation levels (CO<sub>2</sub> levels) should be restricted. Check the Technical Specification (see page 3) in order to find the maximum carbonation level for each type of KeyKeg.

### Secondary Fermentation

When kegged beer is meant to undergo secondary fermentation in a KeyKeg, it is essential to add the proper amount of wort or sugar in order to prevent an excessive CO<sub>2</sub> build-up in the beer as a result of this fermentation.

Another type of risk involves fully fermented beer or wine which contains residual, fermentable sugars. Remaining yeast needs to be filtered out or neutralized before filling the keg. When this is not done properly, unwanted, spontaneous secondary fermentation inside the keg can occur, resulting in an unacceptably high CO<sub>2</sub> content.

Finally, if nitrogen is used to transfer the wine at the winery, the additional effect of this on the internal pressure should be taken into account.

**Recommendations**

The pressure in a KeyKeg Baseline must never exceed 4 bar (58 psi) at or above 40 °C (104 °F). For the KeyKeg Slimline these limits are 6 bar (80 psi) at or above 40°C (104°F). It is essential that long time exposure to these conditions is avoided. In hot countries, KeyKegs must be stored in temperature-controlled warehouses, preferably where temperatures are kept below 28°C (82 °F). Additionally, KeyKegs should always be protected from direct sunlight!

**We recommend the following Measures for transporting KeyKegs in hot conditions, in order of preference**

1. Refrigerated transport with a reefer container



2. Below-deck transport combined with an insulating blanket.

Suppliers of these blankets are  
[www.ggori.com](http://www.ggori.com)  
[www.protekcargo.com](http://www.protekcargo.com)  
[www.ipcpack.com](http://www.ipcpack.com)  
[www.krautz.org/england.htm](http://www.krautz.org/england.htm)



3. Below-deck transport combined with insulation, using materials such as expanded polystyrene foam or multiple layers of cardboard. (least effective option)





## ***Logistics***

### ***General Remarks***

When handling KeyKegs, filled or unfilled, always take care that they are not damaged by fork-lift trucks or other handling equipment.

KeyKegs are delivered on fitting pallets, each size KeyKeg has its own most suitable size pallets:

Baseline 20 – CP5 (760 x 1140 mm – 30" x 45")

Baseline 30 – Euro pallet (800 x 1200 mm – 31 ½ " x 47 ¼ " )

Slimline 10/20/30 – Block pallet (ISO2) (1000 x 1200 mm) - Standard GMA Pallet North America (ISO2) 40" x 48"

### ***KeyKeg Baseline***

Please note that the cardboard outer packaging of the Baseline makes it susceptible to moisture. Baseline KeyKegs should not be exposed to water or other liquids because the cardboard will get soggy and lose its strength. KeyKegs stacked on pallets may turn over as a result.

### ***KeyKeg Slimline***

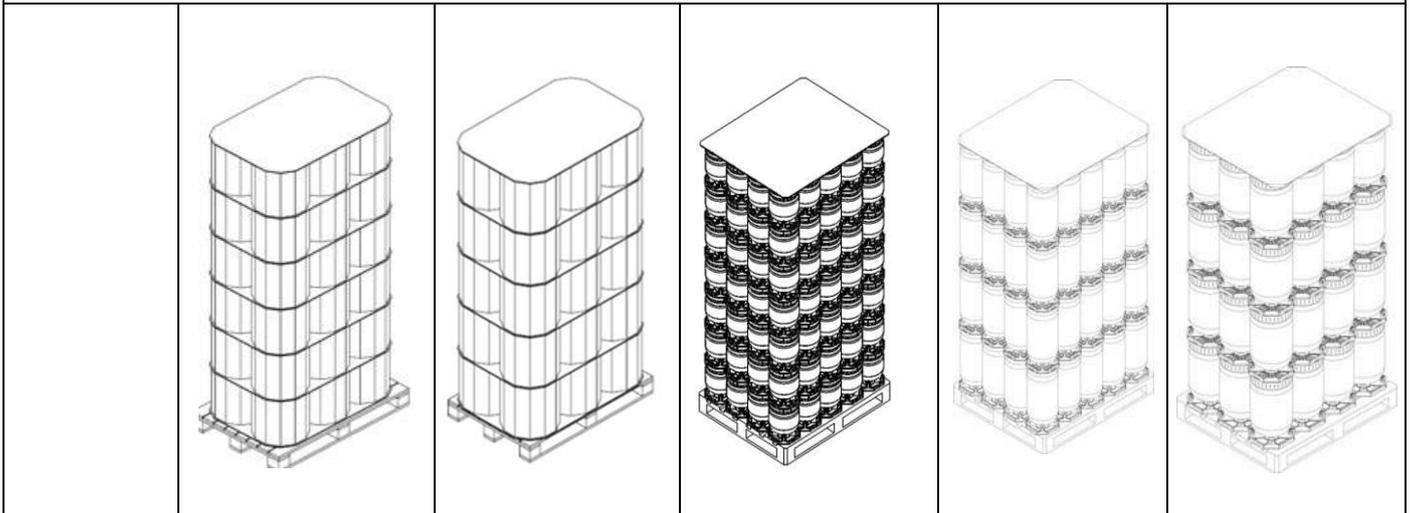
The KeyKeg Slimline has a smaller base than the Baseline and is cylindrically shaped. Make sure palletized Slimlines are firmly connected as a "block". Use the grip ring on the top of the keg to form a nesting base for the keg stacked on top.

## Palletizing

### Empty

| <b>Empty</b>  | Baseline 20 l.                           | Baseline 30 l. | Slimline 10 l.                    | Slimline 20 l. | Slimline 30 l. |
|---------------|--|----------------|-----------------------------------|----------------|----------------|
| Pallet size   | CP5                                      | Euro           | Block / ISO2                      |                |                |
| No. of layers | 6  | 5              | 7                                 | 4              | 4              |
| KK per layer  | 6  | 6              | 20                                | 20             | 12             |
| KK per pallet | 36                                       | 30             | 140                               | 80             | 48             |
| Orientation   | Upside down                              |                |                                   |                |                |
| Height        | 2.42 m – 96"                             | 2.35 m – 93"   | 2.43 m – 96"                      | 2.42 m - 96"   | 2.42 m - 96"   |
| Notes         | Cardboard 7 mm sheets between the layers |                | Top covered with cardboard sheet. |                |                |

Pallets are shrink wrapped, Slimlines use white shrink foil



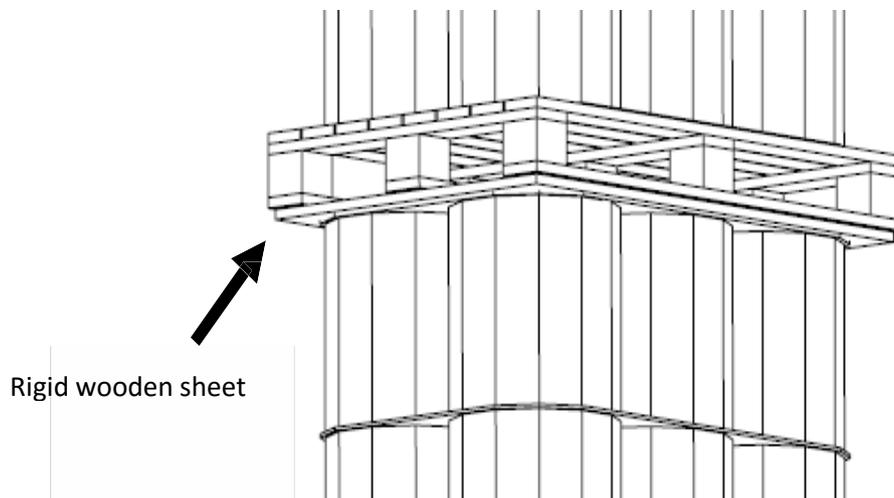
## Palletizing

### Filled

| <b>Filled</b>                          | Baseline 20 l.   | Baseline 30 l.  | Slimline 10 l.                    | Slimline 20 l.  | Slimline 30 l.  |
|--|--|-----------------|-----------------------------------|-----------------|-----------------|
| Max. of layers                         | 4 **   | 4 **            | 5 **                              | 3 **            | 3 **            |
| KK per layer                           | 6  | 6               | 20                                | 20              | 12              |
| KK per pallet                          | 24   | 24              | 100                               | 60              | 36              |
| Orientation                            | Top up   |                 |                                   |                 |                 |
| Height                                 | 1.66 m –<br>66"  | 1.91 m –<br>76" | 1.80 m –<br>71"                   | 1,86 m –<br>74" | 1.86 m –<br>74" |
| Maximum staking height in warehouse    | 12 layers */**   |                 | 10 Layers */**                    | 6 Layers */**   |                 |
| Recommendations                        | Use of minimum 7 mm cardboard intermediate sheets and top sheet. If stacking 2 pallets: use rigid wooden sheet (15 mm minimum) below second pallet or use double deck pallets to avoid damage to upper KeyKeg layer of lower pallet (see image). |                 | Top covered with cardboard sheet. |                 |                 |
| <b>Pallets must be shrink wrapped!</b> |  |                 |                                   |                 |                 |

*\*With intermediate pallets*

*\*\* The maximum stacking height for filled KeyKegs is based on their mechanical properties and does not take local health and safety regulations or the maximum pallet, truck or container load into account. It is the users's responsibility to adhere to local regulations.*





| <i>Number of Pallets</i>     | <b>Baseline 20</b> | <b>Baseline 30</b> | <b>Slimline 10</b> | <b>Slimline 20</b> | <b>Slimline 30</b> |
|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 45 ft. High Cube Pallet Wide | 34                 | 33                 | 26                 | 26                 | 26                 |
| 40 ft. High Cube             | 30                 | 24                 | 22                 | 22                 | 22                 |
| 40 ft. Reefer                | 30                 | 23                 | 20                 | 20                 | 20                 |
| 20 ft. Standard*             | 15                 | 11                 | 10                 | 10                 | 10                 |
| 20 ft. Reefer                | 14                 | 10                 | 9                  | 9                  | 9                  |
| truck (13.6 mtr)             | 34                 | 33                 | 26                 | 26                 | 26                 |
| truck with trailer (2 x 7 m) | 36                 | 33                 | 28                 | 28                 | 28                 |
| jumbo truck (2 x 7.7 m)      | 40                 | 38                 | 28                 | 28                 | 28                 |
| US truck 48'                 | -                  | -                  | 28                 | 28                 | 28                 |
| US truck 53'                 | -                  | -                  | 30                 | 30                 | 30                 |

| <i>Number of KeyKegs Empty</i> | <b>Baseline 20</b> | <b>Baseline 30</b> | <b>Slimline 10</b> | <b>Slimline 20</b> | <b>Slimline 30</b> |
|--------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 45 ft. High Cube Pallet Wide   | 1224               | 990                | 3640               | 2080               | 1248               |
| 40 ft. High Cube               | 1080               | 720                | 3080               | 1760               | 1056               |
| 40 ft. Reefer                  | 1080               | 690                | 2800               | 1600               | 960                |
| 20 ft. Standard*               | 450                | 330                | 1200               | 600                | 360                |
| 20 ft. Reefer                  | 420                | 240                | 1080               | 540                | 324                |
| truck (13.6 mtr)               | 1224               | 990                | 3640               | 2080               | 1248               |
| truck with trailer (2 x 7 m)   | 1296               | 990                | 3920               | 2240               | 1344               |
| jumbo truck (2 x 7.7 m)        | 1440               | 1140               | 3920               | 2240               | 1344               |
| US truck 48'                   | -                  | -                  | 3920               | 2240               | 1344               |
| US truck 53'                   | -                  | -                  | 4200               | 2400               | 1440               |

***\*Pallets must be one layer less high.***

Filled KeyKegs: The actual maximum loading capacity depends on local regulations and the maximum payload of the truck or container. We recommend contacting your local authorities to verify the applicable maximum payload.