

Petainer Keg

The environmental, economical,
alternative to metal kegs
for draught beverages



100% packaging system solutions...

The Petainer Keg



The Petainer Keg offers a significant breakthrough in the sales and marketing of volume beer, wine and other beverages. It opens up new channels and markets and provides a step change in environmental performance - as well as reducing costs and improving cash flow.

Although it is highly engineered, the concept of the Petainer Keg - like all great ideas - is simple. It is a lightweight beverage container manufactured in recyclable PET and designed for one-way use.

A range of sizes is available and there are versions adapted for use on existing filling lines.

Petainer Kegs, unlike other plastic kegs and metal kegs, can be supplied either complete and ready for filling or as 'preforms' that can be blown near the point of use. This second option provides further environmental and economic benefits.

If required, standard Petainer Kegs can be supplied in an outer cardboard box to further improve the ease of handling and to provide opportunities for product branding.

Working alongside supply partner KHS, Petainer can provide total packaging systems solutions which include equipment for conveying, handling and filling kegs.

All Petainer Kegs are available with one-way, Micro Matic compatible low cost fittings which allow them to be connected to existing tapping systems for draught beer.



100% better...

The Petainer Keg family



Standard Petainer Kegs are currently available in four sizes - 15, 20, 30 and 40 litres. The 20 and 30 litre kegs are also available in a version that is specifically designed for use on existing filling lines for metal kegs.

All the kegs offer economic and environmental benefits when compared with metal kegs and other plastic variants. The benefits increase with the size of the keg - the larger the keg, the larger the savings.

The current range of sizes and the associated range of fittings mean that there is a suitable keg for almost every beverage application in bars, pubs, clubs and restaurants worldwide. In addition to beer, Petainer Kegs are suitable for a range of beverages including cider, wine, water, concentrates and low pressure carbonated soft drinks.



100% benefits...

Kegs for existing filling lines

Versions of 20 and 30 litre Petainer Kegs are available that are specifically designed for existing brewery filling lines used for filling steel kegs. These are traditionally filled with the opening in the keg facing downwards and sealed onto the filling system.

The adapted version offers brewers the opportunity to gain all the advantages of the Petainer Keg without needing to invest in new filling systems.

The kegs are supplied in rigid polypropylene casings which facilitate use on existing filling lines. The casings also make the kegs easy to handle in transport and by users in bars, clubs and restaurants - replacing the cardboard cartons of standard Petainer Kegs.

Like the Petainer Kegs themselves, the casings are designed for one-way use and are fully recyclable. They can be printed to users' specifications to create new opportunities for branding.



100% compatible...

Micro Matic compatible fittings



Petainer Kegs are available with flat fittings compatible with Micro Matic A systems and well-type fittings compatible with Micro Matic S and D systems.

Other fittings are currently under development for additional applications.

The range of fittings means that Petainer Kegs are compatible with beer and other beverage dispensing systems in use worldwide.

Lightweight plastic Petainer fittings are specifically designed for use with Petainer Kegs. Like the kegs, they are designed for one-way use and are fully recyclable.

Petainer Kegs and fittings can be used for transporting and dispensing beer, cider, wine, water, concentrates and low pressure carbonated soft drinks.



100% better business...



Inbound logistics costs using Petainer Keg preforms are a fraction of the costs associated with metal kegs:

- One million Petainer Keg preform sets can be transported on approximately 45 vehicles
- Because Petainer Kegs are one-way, there is no carbon footprint generated from return logistics
- One million steel kegs (outbound/delivery journeys) need approximately 1.850 vehicles

Cost reduction

The Petainer Keg offers substantial financial benefits to breweries and other keg users - particularly when compared with metal kegs.

Capital cost reduction

A switch to Petainer Kegs from metal kegs gives savings in both capital and operating costs.

There are potentially large savings in capital employed by eliminating the need to maintain a 'fleet' of kegs. Eliminating the fleet can release the substantial sums tied up in this 'asset' and end the constant expenditure on replacing damaged, lost or stolen kegs.

In addition there is no need to maintain expensive tracking systems.

As Petainer Kegs are produced on demand, working capital requirements can be reduced significantly.

Further capital savings can be made by the elimination of costly and complex keg cleaning systems.

Efficiencies in the use of space can be made by eliminating the need to store large numbers of kegs in order to have them available for periods of peak demand. Only a limited stock of Petainer Kegs needs to be held for immediate use and these take up far less space than metal kegs. Preforms take up even less space - giving the lowest warehousing costs and best space utilisation available.

Operating cost reduction

The Petainer Keg is not only the most cost-effective packaging on the market, it also has a number of other cost advantages.

Eliminating the return of used metal kegs eliminates the costs of cleaning them and putting them back into use. With Petainer Kegs, not only the container but also the

spear and fittings are 'one-way' - there are absolutely zero return and cleaning costs.

Substantial savings can also be made in logistics, not only by eliminating the costly return system necessary with metal kegs but also by cutting the cost of outbound delivery of filled kegs. PET Petainer Kegs are lighter than metal kegs which carry the same volume of liquid. More kegs can therefore be fitted on each outbound vehicle. Outbound logistics costs are typically 20-30 per cent per hectolitre lower using Petainer Kegs than using metal kegs.



100% recyclable...

Reduced environmental impact



Innovation and sustainability, combined with a strong environmental philosophy, are driving the development of this trend-setting packaging for beer, wine, cider and other beverage markets.

Research has proven that Petainer Kegs allow brewers and fillers to substantially reduce the environmental impact of their operations.

Petainer has built a strong reputation for improving the environmental footprint of PET packaging. It was one of the first users of recycled resins and has done much to improve material efficiencies, with a high degree of competence in the design and development of lightweight containers. It continues to lead the industry with its continuing development of this fully recyclable family of lightweight one-way PET kegs.

Petainer Kegs are fully and easily recyclable, meeting all the essential requirements covered by EU regulations, including suitability for both mechanical and 'energy from waste' recycling. This ensures customers can choose the most appropriate methods and takes account of local conditions. PET is one of the easiest and simplest plastics to recycle. Petainer Kegs, once safely de-pressurised, can

be disposed of in the same way as any other PET packaging. No special arrangements need to be made.

The major components of the fittings are also fully recyclable and can be placed in the normal dry recyclables or plastics recovery channels, where systems and facilities exist.

Petainer believes that the very essence of sustainability lies in supporting its customers' brands, throughout the total supply and disposability chain, to economically reduce their global and local environmental footprints whilst providing a strong commercial platform from which to drive sales.

Petainer can demonstrate that sustainability and recycling can drive commercial success and not be a cost burden. It is committed to providing customers with all the support they need to evaluate the environmental and economic benefits of Petainer Keg systems, including how best to optimise the value from the waste material.

Key environmental benefits are:

- Low material usage, compared to returnable metal kegs and other one-way kegs
- Lightweight construction, reducing supply chain environmental impacts. 20-30 per cent more liquid can be transported on a single vehicle using the 20 litre Petainer Keg than with a standard metal keg
- Significantly reduced water usage
- No hazardous or special waste from any cleaning process
- No return logistics and storage
- Blowing can be done at a customer's site, making the transportation from Petainer's manufacturing plant much more economical and environmentally efficient



100% new business...

Market development



Petainer Kegs create opportunities to open up new markets and to more profitably service existing markets.

New markets

The Petainer Keg opens up a whole range of new and exciting market opportunities, helping to drive sales volumes at a much lower cost and with a lower environmental footprint than is possible with metal kegs.

Such opportunities include:

- Export markets
- Sales to retail establishments where space is limited
- New market introductions
- Providing an opportunity for low cost entry into the beverage keg market
- New segments such as low carbonated soft drinks, waters and wine

Greater benefits

The larger the distance that metal kegs travel, the greater the benefits to be obtained by switching to PET Petainer Kegs.

Direct costs of transport and losses of metal kegs generally increase the further that the kegs travel. Export markets are frequently difficult to deal with using traditional returnable metal kegs. Losses in some countries are reported to be as high as 50 per cent.

Eliminating the need to secure the return of kegs can substantially reduce costs. This opens up opportunities for brewers to test and then break into new markets that may previously have been uneconomic.

Market demand

A traditional metal keg fleet needs to be large enough to meet peak demand - typically during the summer months - but this means that for much of the year there are many more expensive kegs than are needed.

Petainer Kegs are produced on demand, allowing peaks and troughs in production to be met cost-effectively without tying up capital in a fleet of unwanted containers.

Branding

The cardboard or polypropylene outer cartons of Petainer Kegs can be printed to users' specifications, giving new opportunities for branding and publicity.



100% taste and quality...



Product quality

From the brewery to the beer glass in the hands of the consumer, Petainer Kegs deliver 100% taste and quality.

Petainer Kegs use sophisticated 'barrier technologies' to keep their contents in the best possible condition.

The Polyester Plus scavenger and own blending incorporated in the Petainer Keg restricts oxygen ingress and reduces CO₂ losses by actively removing oxygen from the interior of the keg.

The brown pigmentation in the plastic - plus a cardboard outer box if required - provides UV light protection.

The Petainer Keg material and all the fittings materials are approved for food use by the European Union and by the FDA in the USA.

All are produced under regulated hygienic conditions in ISO 9000 and ISO 14000 certified plants.

As a complete one-way system Petainer Kegs can offer improved hygiene performance. Problems from inorganic staining (beer stone) and flavour taints associated with poor washing techniques, aluminium kegs or simply an ageing metal keg population are eliminated.

Extensive tests - reported in detail on the Petainer website - and experience in use demonstrate that Petainer Kegs can store draught beer for at least nine months with no negative impact on the composition or taste of the product.



100% user friendly...



Using Petainer Kegs does not just offer substantial benefits to breweries and fillers - there are real benefits to end users as well. Bars, restaurants, clubs and other outlets for draught beverages (particularly beer) have much to gain if their suppliers switch to Petainer Kegs.

User benefits

Storage and handling

One of the biggest benefits for users is the reduced storage space needed for PET kegs. Securely storing empty metal kegs to prevent them being stolen before they are collected is a problem in many outlets. Empty Petainer Kegs, once de-pressurised, can be easily crushed and then put into the recycling bin with other recyclable plastics containers.

Handling full PET kegs is easier than handling metal ones because of their much lower weight. A full 20 litre Petainer Keg weighs only 21 kg, allowing it to be manually handled without breaching European Union regulations. This makes it quick and easy for bar staff to change kegs when new ones need to be brought into use.

If the kegs come in cardboard outer boxes or polypropylene casings, which make the kegs even easier to handle, these can also be sent for recycling.

Ease of use

The fittings and spears on Petainer Kegs are designed to allow bar, restaurant and club owners to use a Petainer Keg in exactly the same way as they would use a metal keg. Without making any change to existing bar or cellar equipment they immediately gain all the Petainer Keg benefits of lower weight, easier storage and recyclability.

Adapters are available to enable Petainer Kegs to be used on existing racking systems if required.

Hygiene, taste and quality

Having one-way fittings that have been manufactured under hygienic factory conditions means that keg users have fewer concerns about health and safety and less work to do in keeping fittings and equipment clean. All the components of the keg and fittings are approved for food use by the European Union and by the FDA in the USA.

Problems from inorganic staining (beer stone) and flavour taints associated with poor washing techniques, aluminium kegs or simply an ageing metal keg population are eliminated.

Cost

There may be cost savings for users if their supplier normally charges a deposit on metal kegs. The cash tied up in this non-productive financing can be released for other purposes.

Environmental benefits

In addition to all of the above, users have the benefit of knowing that they are contributing to improved environmental performance in the industry - a message which they can pass on to their increasingly environmentally-aware customers.



100% flexible supply options...

Total packaging systems solutions



A flexible range of supply options allows brewers and fillers to make use of Petainer Kegs at zero capital cost or to take container manufacture in-house to minimise operating costs.

The range of fittings, cartons and other ancillaries ensures that kegs are available to meet the needs of a huge variety of products, outlets and users.

Consultancy

Along with KHS - Petainer's partner in providing holistic systems solutions for customers - Petainer's experienced teams of experts can provide consultancy services to advise on the best option for a particular customer.

Petainer also provides technical support to set up and manage the blowing process as required. It can help to set up keg production equipment and provide education and training for customers - and because the company itself produces kegs as well as preforms it is well-placed to provide technical advice to users of preforms.

Working with KHS it can also provide advice and equipment for container handling, conveying and filling.

After sales support

Users of Petainer Kegs are offered a choice of after-sales technical support packages. As well as giving the right to use the Petainer Keg name these provide training of staff on installation, access to operational and quality procedures, access to updates and new developments, and attendance at technical update/user conferences.

An added-value support package also provides an annual refresher course, an annual processing and quality audit of the customer's keg production operations (highlighting existing or potential future problems or opportunities) and extended technical support. It also provides access to marketing support materials - jointly branded with the brewer or filler - to help communicate the benefits of Petainer Kegs to end users.



100% perfect match...



Product specification

Fitting

- PP, POM construction
- Compatible with beer filling and dispensing systems
- Fully recyclable in normal plastics recycling infrastructure

Keg body

- Lightweight monolayer construction
- Moulded using PET
- FDA and EU food use approved materials
- Rigid with excellent stress cracking and impact resistance
- UV protection

Materials

Petainer Kegs are manufactured from PET (PolyEthylene Terephthalate) with a small proportion of nylon and a brown colorant. Fittings are made from plastic materials: POM (Polyoxymetylen), PP (Polypropylene), TPE (Thermoplastic Elastomer) and a stainless steel metal spring. All the materials used are approved for food use by the European Union and by the FDA in the USA.

Filling

Standard Petainer Kegs can be filled in small quantities using standard filling machines with an adapter from Petainer's partner KHS. However, for commercial volumes Petainer recommends the use of specific equipment from KHS. Variants of the 20 and 30 litre keg in polypropylene casings are available that are specifically designed for use on existing filling lines.

Handling

Petainer Kegs can be supplied in outer cardboard boxes or with adapters to fit existing racking systems. On conveyor lines and automated filling machines they can be lifted by the neck when empty.

Variants of the 20 and 30 litre kegs designed for use on existing filling lines are supplied in polypropylene casings.

Clip on/clip off handles are available to assist with one-person or two-person manual handling of kegs in breweries and filling plants.

Hygiene and safety

Kegs, preforms and fittings are manufactured under hygienic conditions in ISO 9000 and ISO 14000 certified plants.

Disposal and recycling

The PET Petainer Keg can be easily crushed and then recycled through the municipal or commercial plastics bottle recycling infrastructure which exists in most developed markets. The fittings and cardboard carton or polypropylene casing are also recyclable.



Specifications

Keg specifications	15 litre Classic +	20 litre Classic +	30 litre Classic +	40 litre Classic +	20 litre variant for existing filling lines	30 litre variant for existing filling lines
Body weight	226 gram	226 gram	406 gram	576 gram	226 gram Excluding polypropylene casing	406 gram Excluding polypropylene casing
Product working pressure	< 3 bar	< 3 bar	< 3 bar	< 3 bar	< 3 bar	< 3 bar
Burst pressure	8 bar	8 bar	9-10 bar	9-10 bar	8 bar	9-10 bar
O₂/CO₂ barrier	Polyester + and scavenger Colour nylon	Polyester + and scavenger Colour nylon	Polyester + and scavenger Colour nylon	Polyester + and scavenger Colour nylon	Polyester + and scavenger Colour nylon	Polyester + and scavenger Colour nylon
Shelf life	6 months	9 months	9 months	9 months	9 months	9 months
Top load strength	40-50 kg	40-50 kg	70-80 kg	< 80 kg	160 kg	160 kg
Filling method	From top only KHS Petboy	From top only KHS Petboy	From top only KHS Petboy	From top only KHS Petboy	Existing filling lines	Existing filling lines
Keg logistics						
Inbound keg kits per container (standard 40ft)	25,200 kits	25,200 kits	22,000 kits	18,000 kits	N/A	N/A
Inbound blown kegs per container ('high cube')	2,000	1,600	960	600	1,600	960
Storage - keg layers (empty kegs)	5	4	4	4	4	4
Transport - keg layers (empty kegs)	5	4	4	4	4	4
Outbound (full) kegs per EXP pallet	60 kegs	60 kegs	36 kegs	27 kegs	60 kegs	36 kegs
Outbound (full) kegs per EUR pallet	45 kegs	45 kegs	24 kegs	18 kegs	45 kegs	24 kegs
Transport - keg layers per pallet (full kegs)	3	3	3	3	3	3
Storage - keg layers per pallet (full kegs)	4	3	3	3	3	3
Storage - stacking pallet (with layer pad)	2	2	2	2	2	2



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