

Instruction MANUAL



How to store, fill and use
Petainer Kegs



Need Help?

For more information or enquiries about your Petainer Keg, please email us or visit our website.

enquiries@petainer.com

www.petainer.com

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Contents

Keg Storage & Safety Recommendations



Read before use:

- Petainer Kegs are designed for professional use only
- Petainer Kegs are designed for single use only, attempts to reuse a keg are not advised by Petainer and are done so at users' own liability
- Refer to the symbols below to ensure kegs are in optimal condition for use
- For further support, contact your Petainer representative

01



No Solvents

02



Food Safe

03



Store Inside

04



Store Upright

05



Do not Pierce

06



No Rough Handling

07



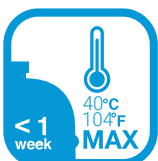
Do Not Exceed 3.1 Bar

08



Depressurise before Recycling

09



Temperature Can Affect Kegs

10



Temperature Can Affect Kegs

11



Fitting

12



Keg Body

13



Keg Chimes

1. Avoid using solvents near the keg. Solvents can damage the PET material and cause a failure in the keg.
2. Petainer Kegs are food safe approved and made with food grade PET.
3. Store securely away from adverse weather. Sunlight and temperature fluctuations can impact the keg.
4. Do not store on side, do not roll the keg.
5. Keep away from sharp objects, keg is under pressure.
6. Rough handling can damage the keg body and keg chimes and therefore the reliability of the product.
7. Maximum working pressure of 3.1 Bar, 45 PSI.
8. Ensure that the keg is depressurised before recycling - refer to disposal instructions (p21).
9. Store the kegs at a constant temperature. If storing at high heat, the shelf life of the keg is reduced.
10. Stored at room temperature, kegs should be filled within 9 months of receipt.
11. Keg fitting should be recycled in line with plastics code 7.
12. Keg body should be recycled in line with plastics code 1.
13. Keg chimes should be recycled in line with plastics codes 2 or 5, marked on the chime.

Specification & Fittings



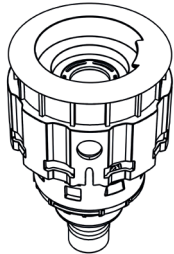
Identifying your Petainer Keg



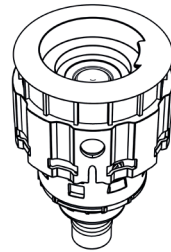
Hybrid Keg



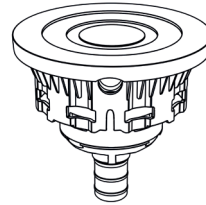
Classic Keg



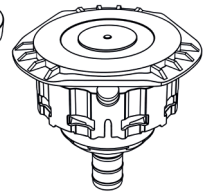
D Type
(American Sankey)
Well Type



S Type
(European Sankey)
Well Type



A Type
Flat Type



G Type
(Grundy)
Triangle Type

Specifications

Size (L)
Automatic Filling
Fitting Types
Maximum Operating Pressure
CO₂ Barrier (12 months)
O₂ Barrier (9 months)
Light & UV Protection

Hybrid

15, 20, 30
Yes
A, S, D, G
3.1 Bar/ 45 PSI
<15% CO₂ Loss
<200 ppb intake
Up to 500nm

Classic

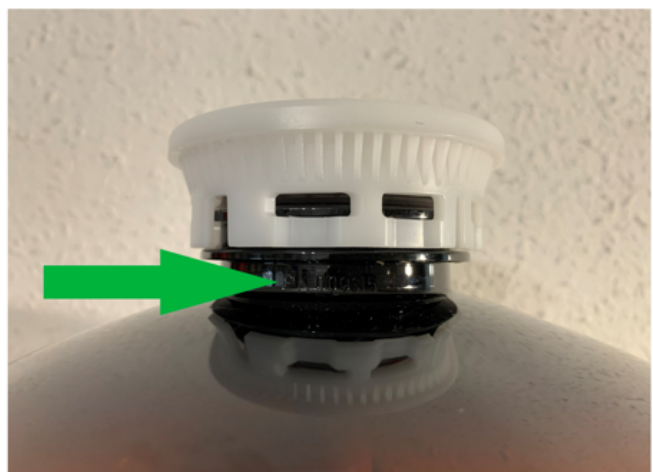
10, 15, 20, 24, 30
With Adaptor
A, S, D, G
3.1 Bar/ 45 PSI
<15% CO₂ Loss
<200 ppb intake
Up to 500nm

Keg Identification

Each Petainer Keg is laser etched on the neck of the keg. This information can be used if there is an issue with an individual keg that needs to be raised and recorded.

e.g. **PN 009315**

P: Petainer
N: Production line
0: 2020
09: Week 09
3: Wednesday
15: production hour 15.00 – 16.00
(3pm – 4pm)



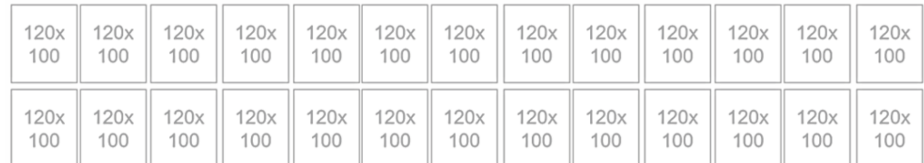


Truck & Container Palletization

Truck 90m³

Pieces/Truck

10L Classic:	3640
15L Classic:	2600
20L Classic:	2080
30L Classic:	1248
20L Hybrid:	2080
30L Hybrid:	1248

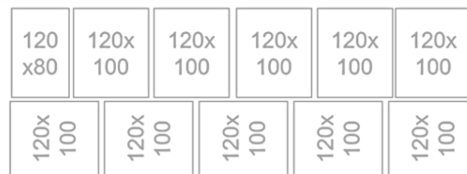


Total Pallets: 26x 1000 x 1200

20' HC container

Pieces/Container

10L Classic:	1540
15L Classic:	1100
20L Classic:	880
30L Classic:	528
20L Hybrid:	880
30L Hybrid:	484

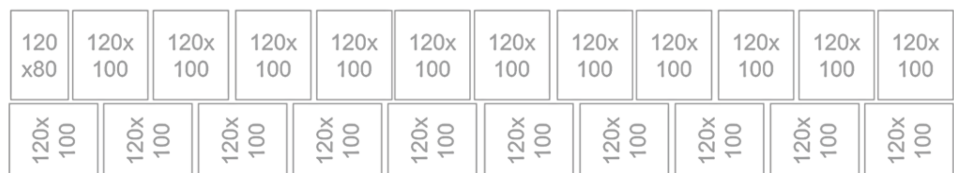


Total Pallets: 11x 1000 x 1200

40' HC container

Pieces/Container

10L Classic:	3045
15L Classic:	2175
20L Classic:	1746
30L Classic:	1052
20L Hybrid:	1746
30L Hybrid:	1052



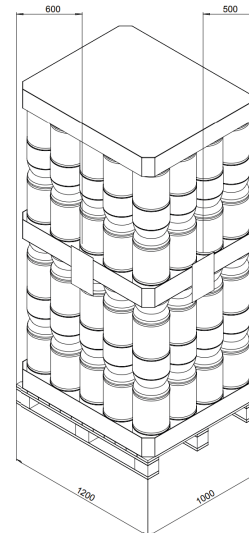
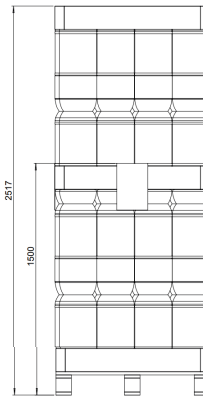
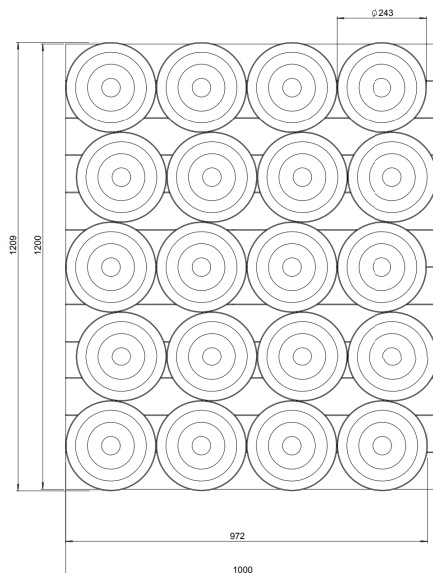
Total Pallets: 21x 1000x1200 + 1x 1200 x 800

Specification Palletization

Export Pallet

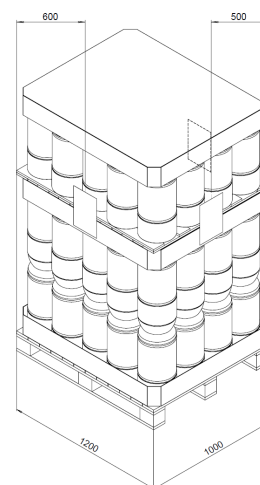
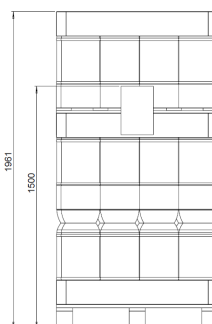
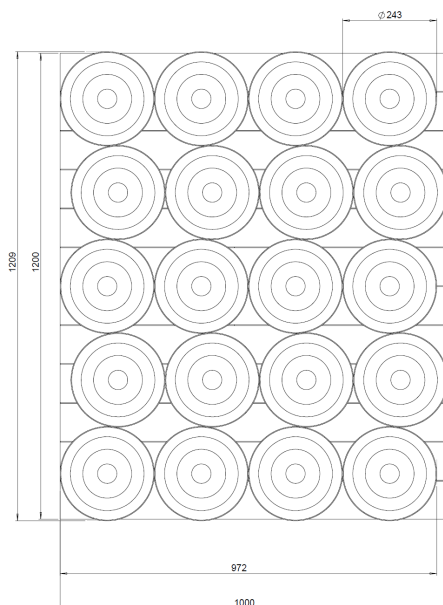


Hybrid 20L Empty



Pallet: 1200x1000
5 Rows, 4 Layers
20 Kegs/Layer 4 Layers = 80 Kegs/Pallet
Total height inc pallet = 2517mm

Hybrid 20L Filled



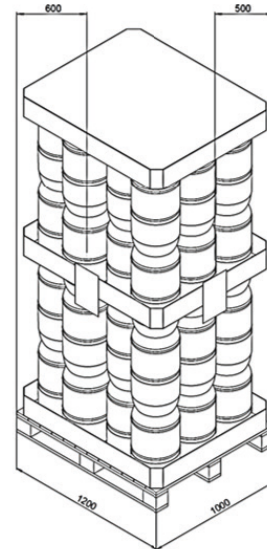
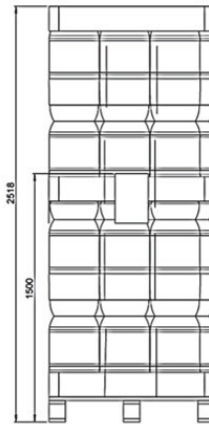
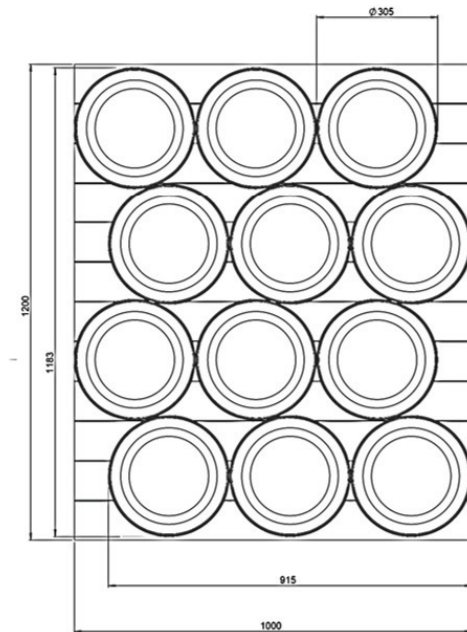
Pallet: 1200x1000
5 Rows, 4 Layers |
20 Kegs/Layer | 3 Layers = 60 Kegs/Pallet
Total height inc pallet = 1961mm

Specification Palletization



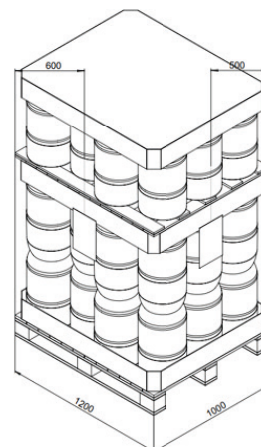
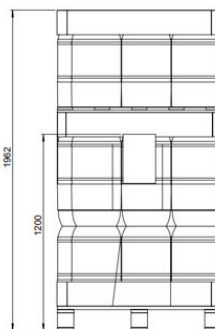
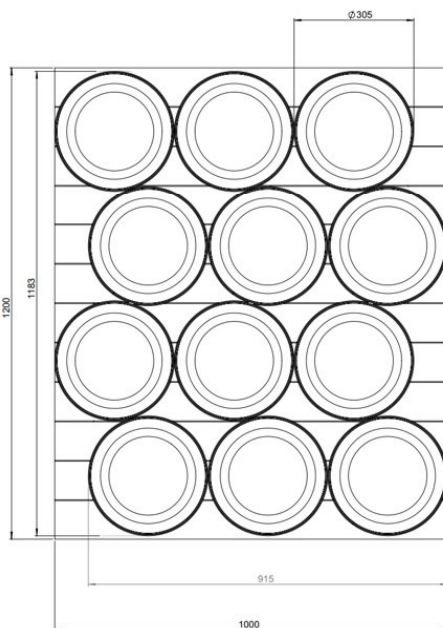
Export Pallet

Hybrid 30L Empty



Pallet: 1200x1000
4 Rows, 3 Layers |
12 Kegs/Layer | 4 Layers = 48 Kegs/Pallet
3 layerpads
Total height = 2518mm

Hybrid 30L Filled



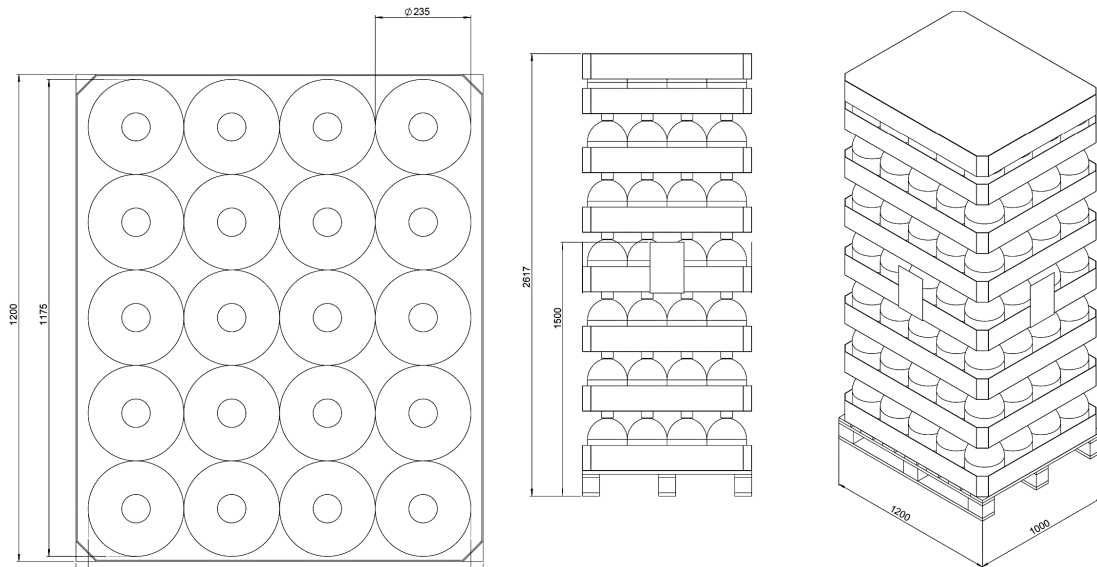
Pallet: 1200x1000
4 Rows, 3 Layers |
12 Kegs/Layers | 4 Layers = 48 Kegs/Pallet
3 layerpad | 1 pallet board
Total height = 1962mm

Specification Palletization



Export Pallet

Classic 10L Empty

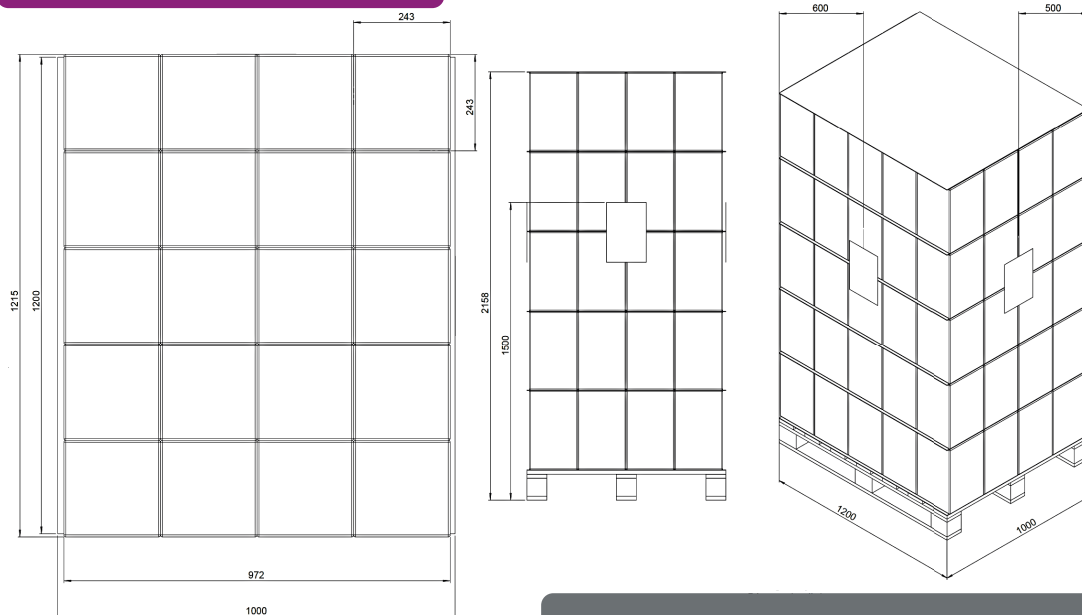


Pallet: 1200x1000

4 Rows, 5 kegs | 7 Layers 20 Kegs/Layer |
140 Kegs/Pallet

Total height inc pallet = A,G 2617mm
= S,D 2540mm

Classic 10L Filled



Pallet: 1200x1000

5 Rows, 4 kegs | 5 Layers 20 Kegs/Layer
100 Kegs/Pallet |

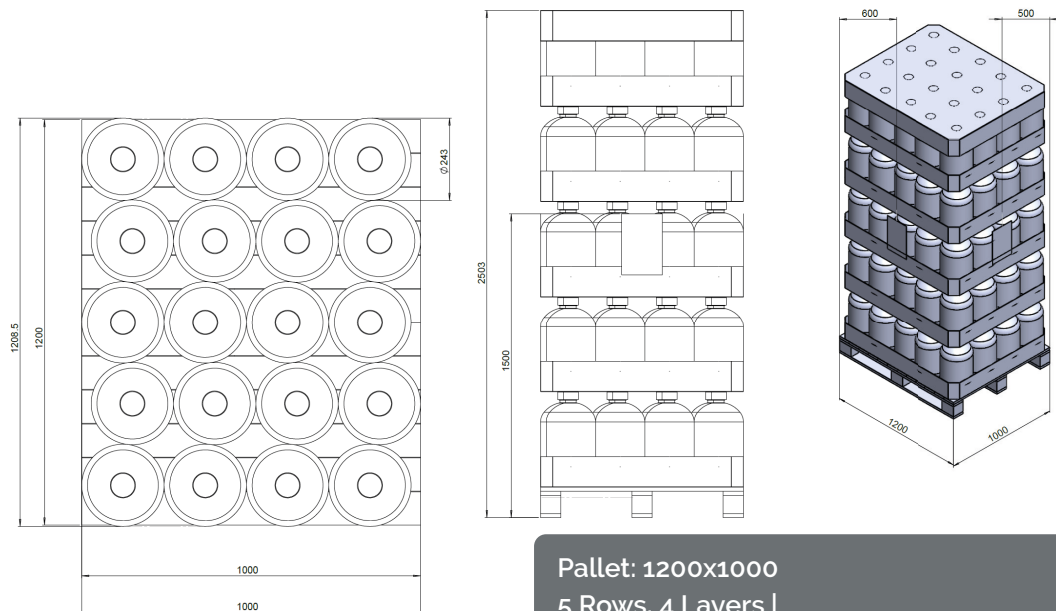
Total height inc pallet = 2518mm Box
Size: 243x243x398mm |
Stable Layer pads between each layer

Specification Palletization

Export Pallet

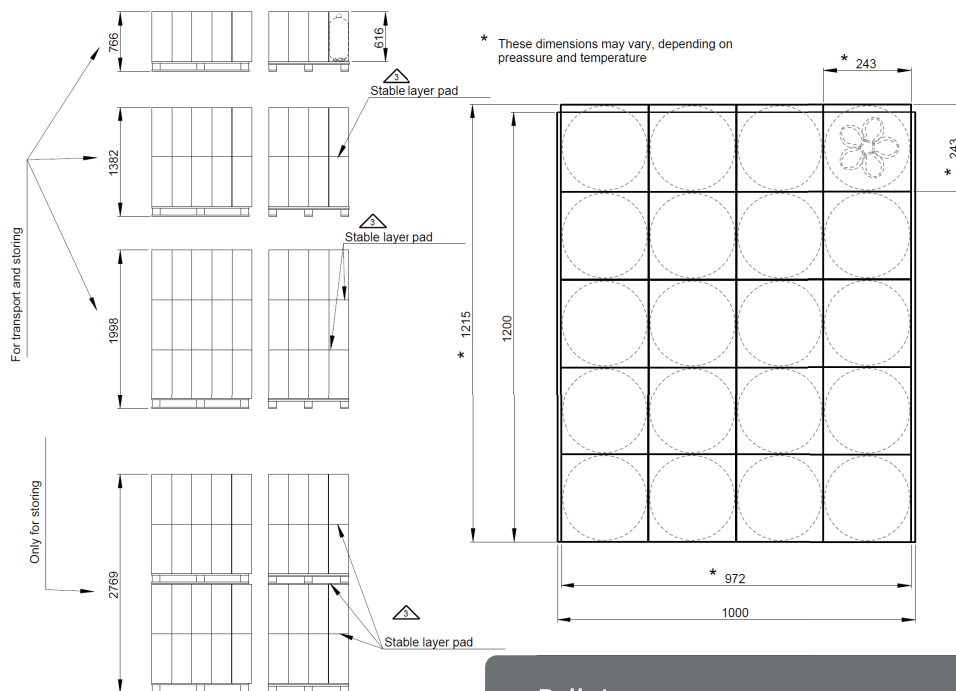


Classic 15L Empty



Pallet: 1200x1000
 5 Rows, 4 Layers |
 20 Kegs/Layer; 5 Layers = 100 Kegs/
 Pallet |
 Total height A.G = 2518mm S,D 2503mm

Classic 15L Filled

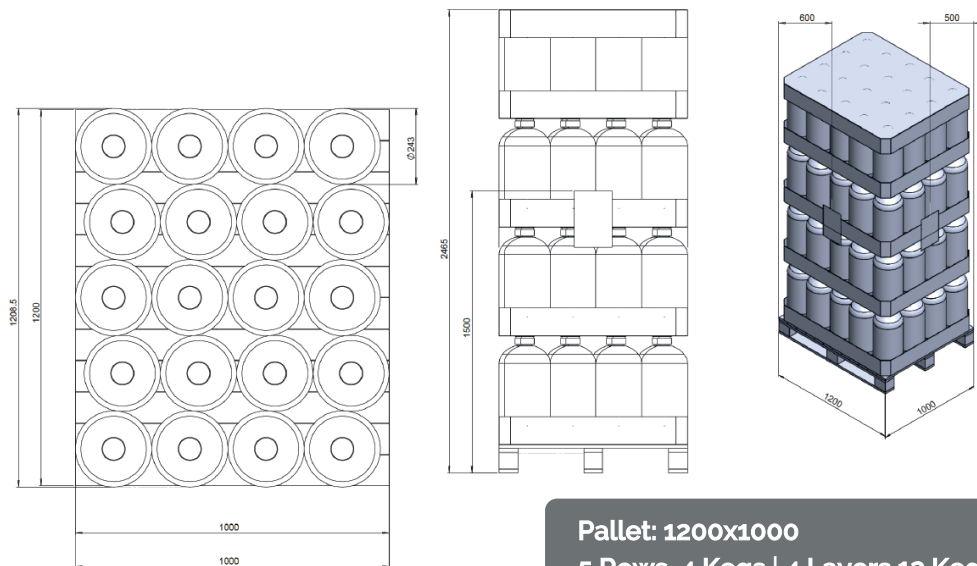


Pallet: 1200x1000
 Please refer to diagrams as heights will
 depend on storage and transport.

Specification Palletization

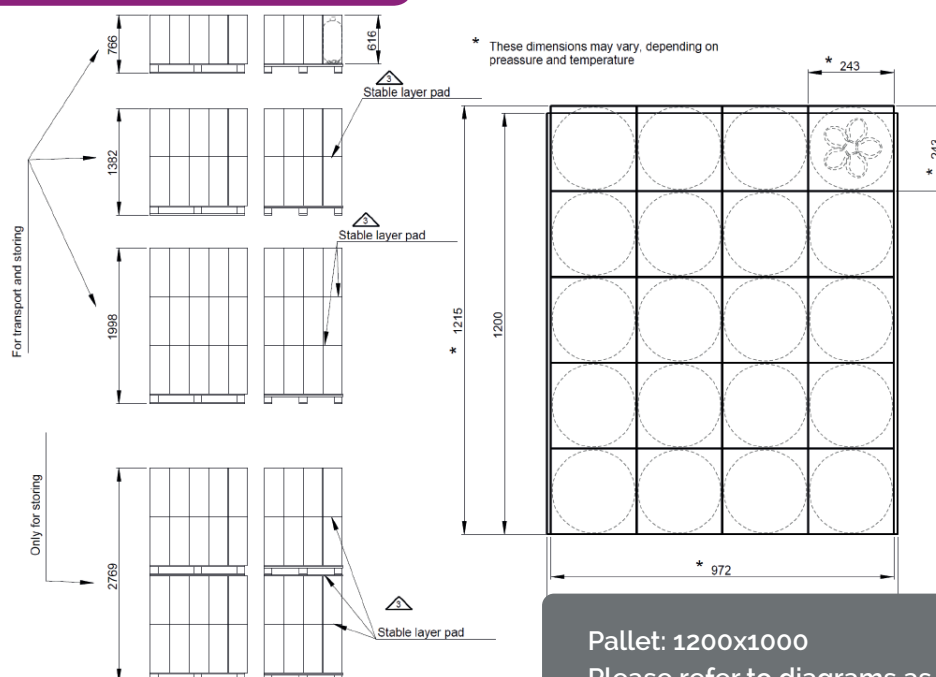


Classic 20L Empty



Pallet: 1200x1000
5 Rows, 4 Kegs | 4 Layers 12 Kegs/
Layer | 80 Kegs/Pallet
Total Height inc Pallet = A,G
2393mm, S.D 2437mm

Classic 20L Filled



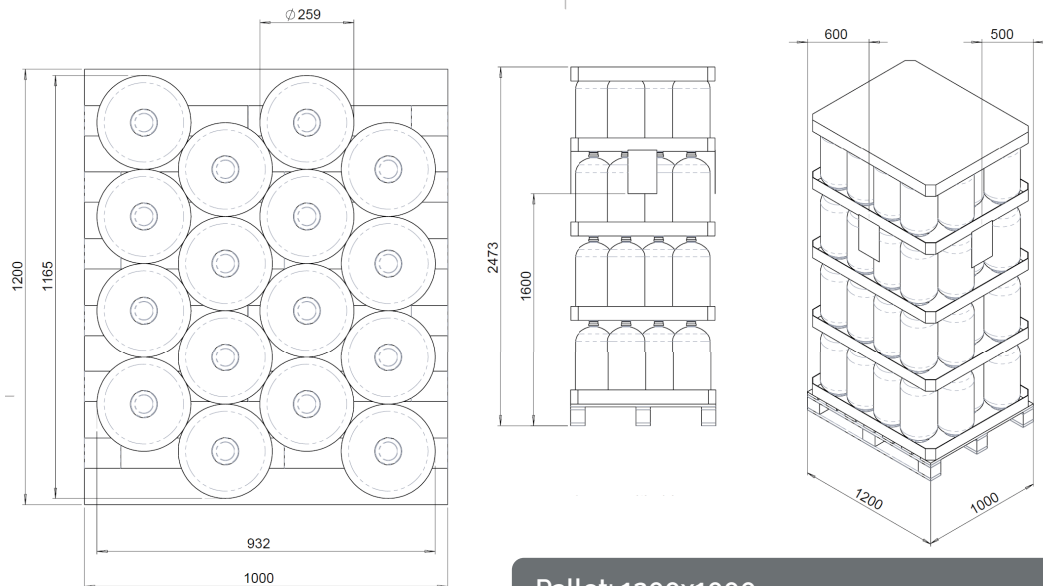
Pallet: 1200x1000
Please refer to diagrams as heights will
depend on storage and transport.

Specification Palletization

Export Pallet

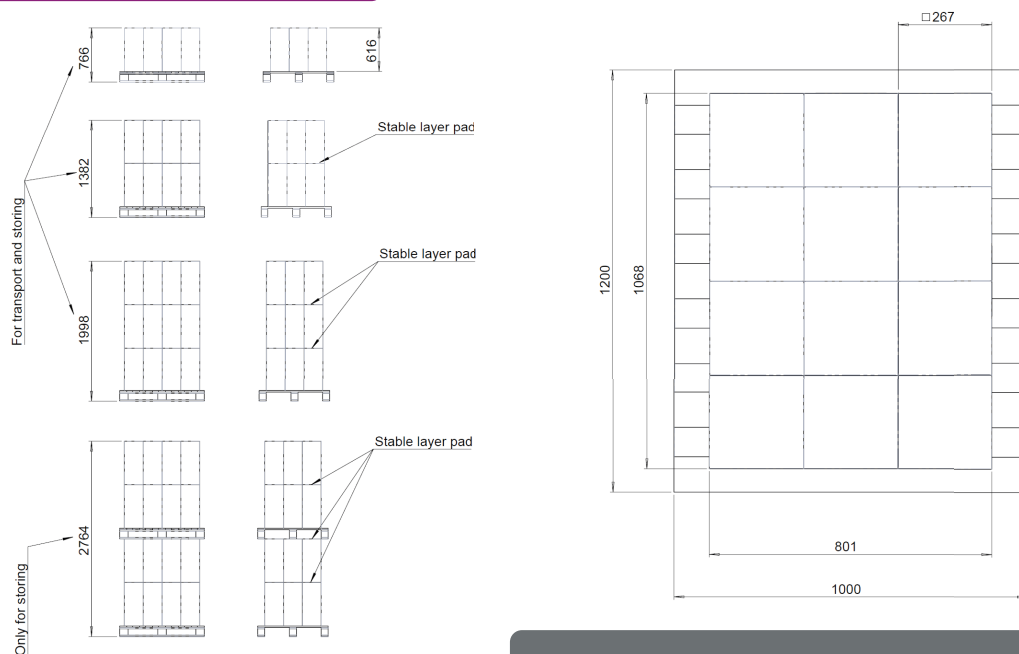


Classic 24L Empty



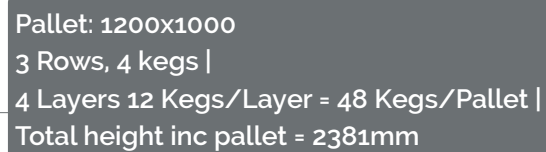
Pallet: 1200x1000
 4 Rows, 4 kegs | 4 Layers 16 Kegs/Layer
 64 Kegs/Pallet |
 Total height inc pallet = A,G 2433mm =
 S,D 2473mm

Classic 24L Filled



Pallet: 1200x1000
 Please refer to diagrams as heights will
 depend on storage and transport.

Classic 30L Empty



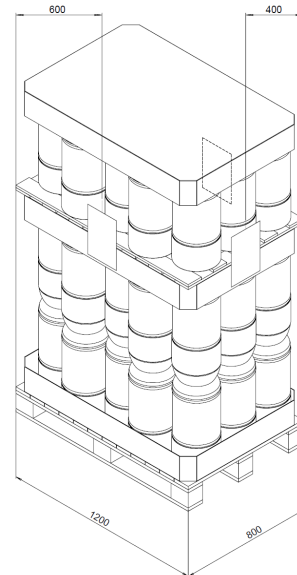
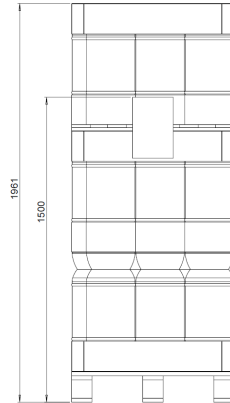
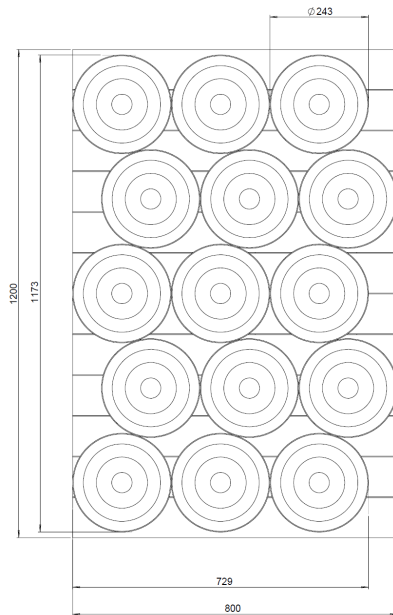
Pallet: 1200x1000
Please refer to diagrams as heights will depend on storage and transport.



Specification Palletization

Euro Pallet - Hybrid Keg

Hybrid 20L Filled



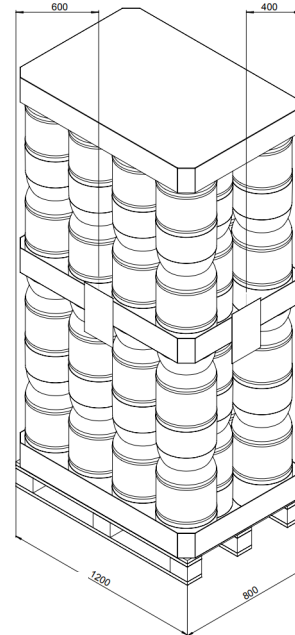
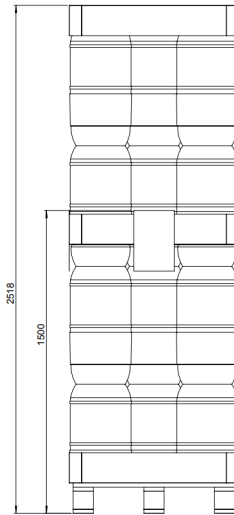
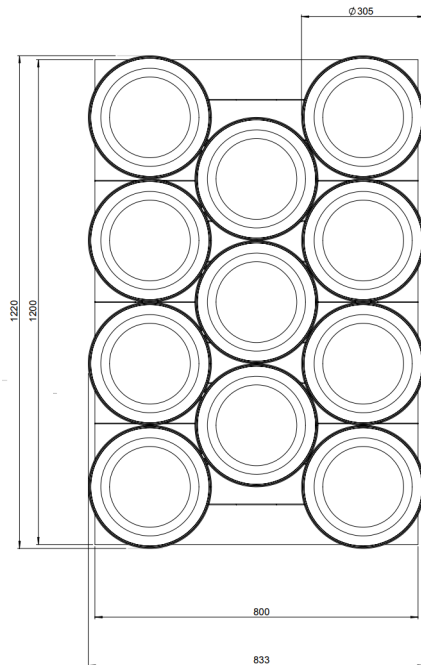
Pallet: 1200x800
5 Rows, 3 Kegs |
3 Layers 15 Kegs/Layer | = 45 Kegs/Pallet
3 layerpads |
Total height inc pallet = 1961mm

Specification Palletization

Euro Pallet - Hybrid Keg - Inbound Full Truck Orders Only



Hybrid 30L Empty



Pallet: 1200x800

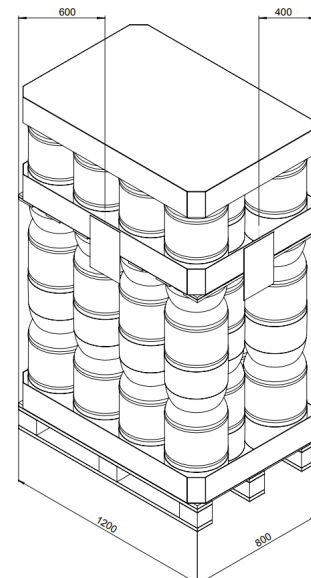
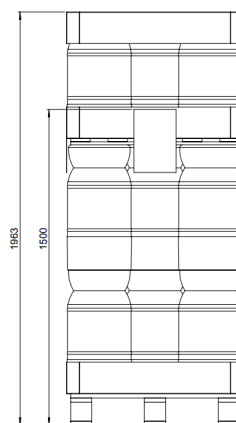
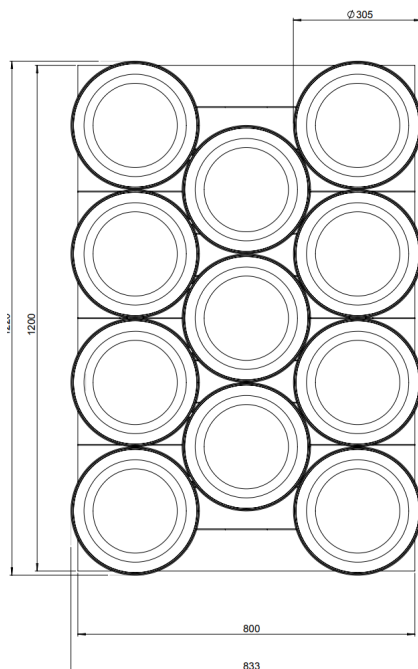
1 Rows 3 kegs |

4 Layers 11 Kegs/Layer = 44 Kegs/Pallet |

3 layerpads |

Total height inc pallet = 2518mm

Hybrid 30L Filled



Pallet: 1200x800

5 Rows 3 kegs |

3 Layers 15 Kegs/Layer = 45 Kegs/Pallet |

3 layerpads | 1 palletboard |

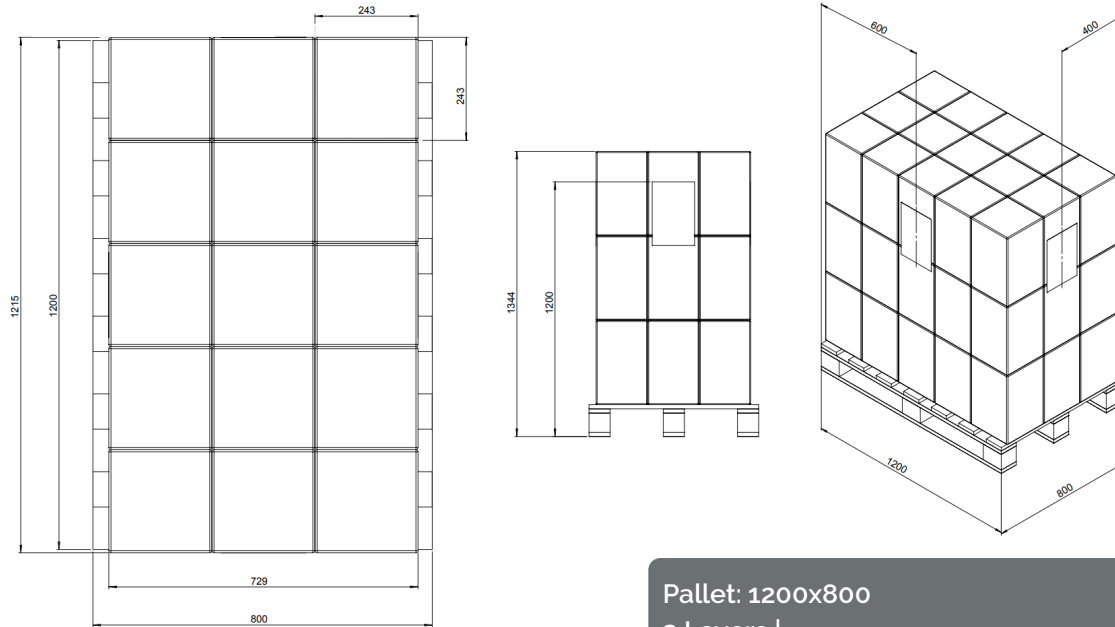
Total height inc pallet = 1961mm

Specification Palletization

Euro Pallet - Classic Filled

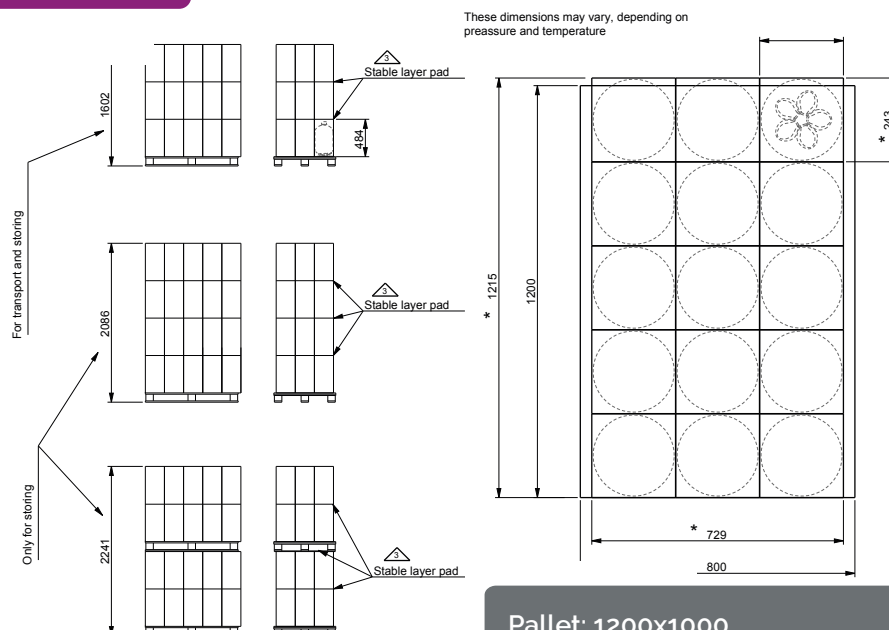


Classic 10L



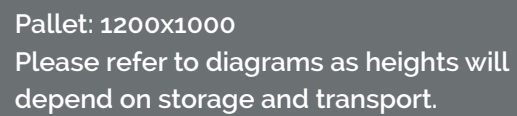
Pallet: 1200x800
3 Layers |
15 Kegs/Layer = 45 Kegs/Pallet |
Total height inc pallet = 1344mm

Classic 15L



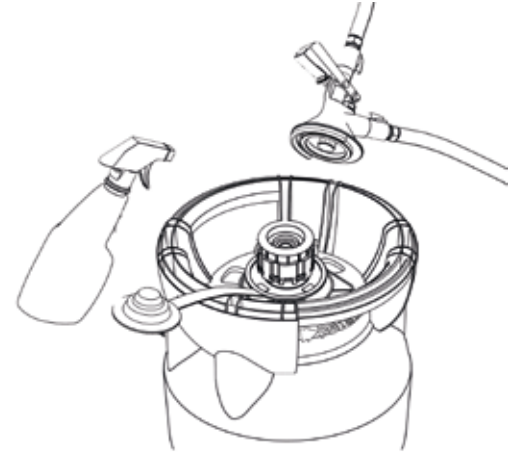
Pallet: 1200x1000
Please refer to diagrams as heights will depend on storage and transport.

Euro Pallet - Classic Filled



Pallet: 1200x1000
Please refer to diagrams as heights will depend on storage and transport.

Clean Manual Fill Everytime



What needs to be sanitized?

The keg is pre-purged with inert gas and does not require internal cleaning. During filling and dispense, the contents of a keg are vulnerable to infection, and therefore proper cleaning procedure is required. Before filling or dispensing, sanitize all of the connecting apparatus: valves, tubes, seals and couplers.

This will ensure that anything coming in to contact with the keg and liquid will be prepared.

Process:

1. Clean and spray the fitting & external part of the valve with an ethanol based disinfectant.
2. Observe disinfectant exposure times.

Disinfectant to use: 70% Ethanol *

***Acidic disinfectants can damage the fitting
70% Isopropyl Alcohol (IPA) also appropriate**





Filling and Tapping

Before filling, ensure that the filling head and all pipes are clean and sterilized, and purge the relevant inlet with inert gas. The keg must be in a stable, vertical position throughout the process. Eye and ear protection, together with work wear should be used.

► Manual Filling

1. To begin:

- Prior to connection, disinfect fitting and filling head with recommended 70% ethanol*

Flat type fitting: A

- Slide the filling head completely onto the fitting and push down the handle. Fully cover the dispense head before pressing down the handle to avoid damage

Triangle type fitting: G

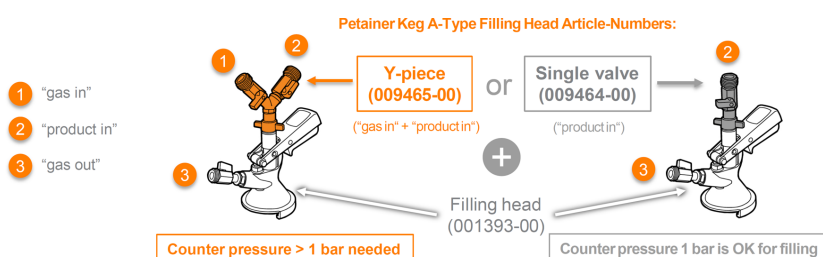
- Push the filling head onto the fitting
- Holding the fitting with one hand, turn the filling head until it stops and push the handle down

Well type fittings: S, D

- Push the filling head into the fitting
- Turn the filling head until it stops and push the handle down. Too much force can damage the fitting.

2. Counter Pressure:

- Kegs are supplied already pre-purged with N₂ and the O₂ left in the keg is guaranteed to be below 0.2%.
- The pressure in the keg will be within 1.0 to 1.5 bar, depending on country of manufacture.
(Please contact your local Petainer representative for further information.)
- Close the gas out valve (3) and wait for keg to pressurize
- Then close the 'gas in' valve (1)
- Note: ideally the keg should be pressurized at 0.5 bar/7psi below the filling pressure. A manometer can be used



3. Filling:

- Ensure that the "gas in" valve (1) is closed.
- Open the "product in" valve (2) slowly to allow the product to flow into the keg.
- Control the filling speed and foaming throughout the fill by adjusting the gas out "valve (3)"
- Note: The filling pressure should not exceed 3.1 bar / 45 psi.
- If an accurate fill is required, it is recommended filling the keg on a scale.

4. End of Filling:

- Note: It is recommended to leave a headspace at the top of the keg of at least 200ml / 8.5 fl.oz.
- Once the keg is determined to be full either by weight or by level:
- Close the "gas out" valve (3) followed by the "product in" valve (2), then lift up the handle.
- Turn the filling head counterclockwise (S,D,G)/slide the head off (A) and remove it.
- Clean and disinfect the fitting with recommended 70% ethanol.
- Put a snap-cap / dust-cap on the fitting
- For Classic only: place the keg in the box. If circumstances allow, use filling temperature above the dew point or acclimatize the kegs before placing in the box.



► Tapping a Keg

To begin:

Ensure that the dispense head, keg fitting and pipes have been cleaned and sterilised once snap cap is removed.

Flat type fitting: A

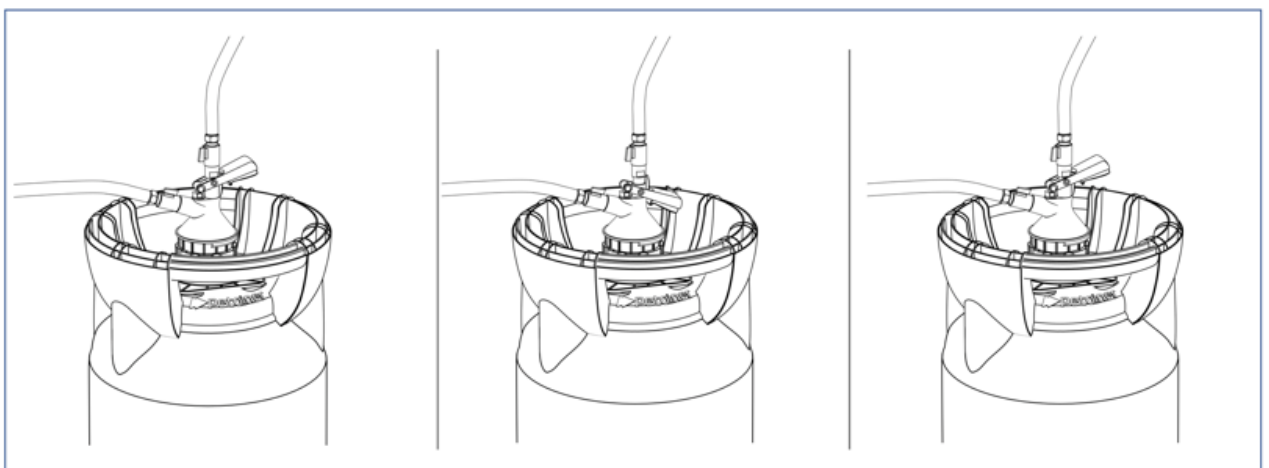
- Break and remove the snap cap.
- Slide the dispense head completely onto the fitting and push down the handle. (Take care to fully engage the dispense head by sliding it onto the fitting until it is fully covered. This will avoid fitting damage while pressing the handle down.)
- Push down the dispense head handle, ready to dispense.

Triangle type fitting: G

- Break and remove the snap cap.
- Push the dispense head onto the top of the keg.
- Hold the fitting with one hand and turn the dispense head clockwise with the other hand until it stops.
- Push down the dispense head handle, ready to dispense.

Well type fittings: S,D

- Break and remove the snap cap
- Push the dispense head into the fitting on the top of the keg. Ensure the correct dispense head is selected - refer to diagram below.
- Turn the dispense head clockwise until it stops. Too much force can damage the fitting.
- Push down the dispense head handle, ready to dispense.

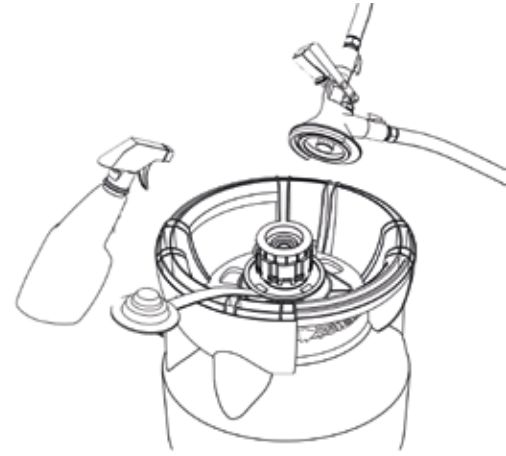


1. Connect dispense head to fitting
2. Push down the dispense handle
3. To release the dispense head, pull up the handle

Need Help?

Contact your Petainer representative.

Clean Machine Fill Everytime



What needs to be sanitized?

The keg is pre-purged with inert gas and does not require internal cleaning. Petainer Kegs can be filled on semi & fully automatic filling lines. In both cases, the filling machines should be sterilized in line with guidance from the machine suppliers. Full filling instructions for semi and automatic fillers are available on request.

This will ensure that anything coming in to contact with the keg and liquid will be prepared.

Process:

1. Clean and spray the fitting & external part of the valve with an ethanol based disinfectant. Observe disinfectant exposure times.
2. Ensure that the automatic/semi automatic filler is sanitized in line with manufacturer's instructions.
3. Intermittent head rinsing can be performed with hot water only -not steam: **1 second; 85°C / 185 F**. The maximum water pressure should be no more than **0,5 bar / 7 psi** higher than the pressure in the Keg.

Disinfectant to use: **70% Ethanol ***

***Acidic disinfectants can damage the fitting**
70% Isopropyl Alcohol (IPA) also appropriate





Semi & Automatic Filling - Hybrid

Petainer Kegs can be filled on many suitably modified steel keg fillers. Please contact the filling machine supplier for advice, format parts and program modifications. When using the Petainer Keg Hybrid format, please note the following:

► Automatic Filling

1. Safety

1. All machinery must be guarded in accordance with local regulations.
2. Eye and ear protection, together with work-wear should be used.
3. PET Kegs can get damaged by sharp objects.
4. Under-filled Kegs or other rejects should be depressurised prior to disposal, using the Pressure Release Tool (PRT) supplied. Additional tools can be ordered through Petainer.

2. Machine program

1. Modify the machine program in accordance with the instructions below:
2. All steel keg washing and sterilising functions need to be inhibited, including the "head seal check" and the spear adapter moving, except on the filling head.
3. Keg must be filled volumetrically to the required capacity to provide head space.

3. Racker conversion

1. Check that the filling head spear adapter (piston top) dimensions comply with the Petainer closure drawing and the fitting is exactly centered over the filling head (piston top). Failure to do so may damage the closure and prevent its proper operation!
2. Maximum allowed top load (clamp pressure) is: 2000 N (450 lbf) with at least 0.5 bar / 7 psi in the keg.

4. Intermediate head rinsing

1. If the racker design allows, it is desirable to flush/disinfect the filling head and each keg valve from outside before and after filling.
2. e.g with hot water (1 second at 85°C / 185 F).
3. The maximum water pressure should be no more than 0.5 bar / 7 psi higher than the pressure in the keg.
4. Water pressure after filling should not exceed the pressure in the keg.

Filling

1. We recommend disinfecting the fitting surface before filling e.g. with 70% ethanol (see Petainer Keg Sanitising Guidance for Filling and Dispensing).
2. Kegs are supplied already pre-purged with N₂ and the O₂ left in the keg is guaranteed to be below 0.2%. The pressure in the keg will be within 1.0 to 1.5 bar, depending on country of manufacture. (Please contact your local Petainer representative for further information.)
3. Keg counter-pressure and filling (maximum pressure 3.1 bar / 45 psi) can then proceed as normal.
4. Filled Petainer Kegs Hybrid are approved for use with robotic palletising equipment.



► Semi - Automatic Filling - All Kegs

Petainer Kegs can be filled using semi-automatic filling machines. Full instructions for machines can be requested through your Petainer contact. Semi-automatic filling increase speed, consistency and can reduce costs. Contact Petainer for complete filler instructions from the machine manufacturer.



JS Filler - EMEA

- 1 filling head 40x30L Kegs/hour - Touch screen interface
- Presets for 20L & 30L kegs
- Compatible for all fitting types.



AB 1 Filler - Americas

- 1 filling head 30-50 x 20L, 20-40 x 30L kegs
- Touch screen interface
- Adjustable back-pressure valve
- Compatible for all fitting types.
- Control air 65-90 PSI



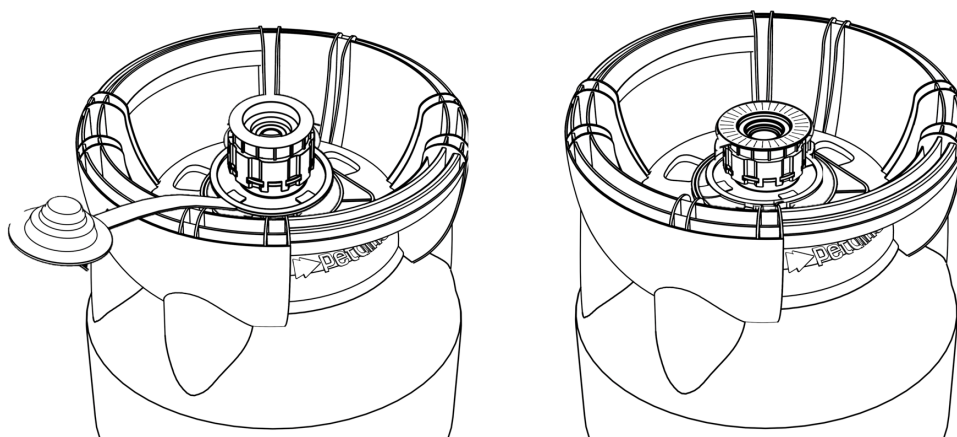
Depressurisation & Disassembly

► Depressurisation

When a keg is empty, it should be depressurised immediately after usage. When empty, there will be a small amount of residual pressure in the keg that needs to be released. Follow the steps below in a ventilated area, with appropriate safety wear.

Method: Pressure Release Tool

- When empty, pull the dispense handle upward and remove it, reversing the steps for dispense.
- If your keg is supplied with a pressure release tool (fitted to the neck of the fitting), push the tool into the fitting.
- There will be an audible release of pressure; this is the keg working properly.



Need Help?

Contact your Petainer representative.

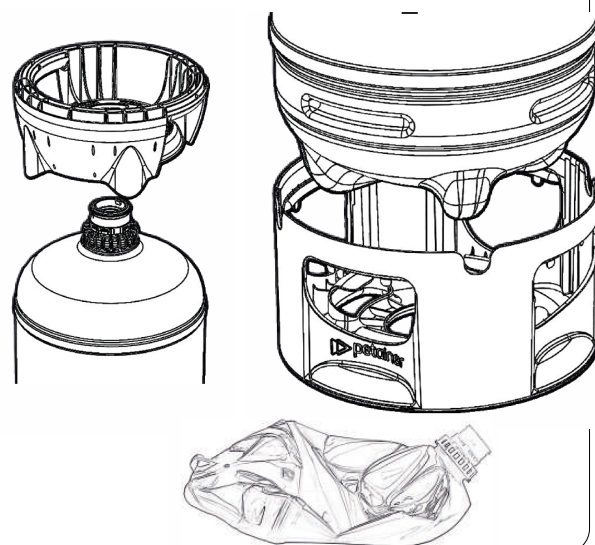


► Disassembly

Petainer Kegs can be easily disassembled for recycling. Hybrid kegs need to have the top and bottom chimes removed. Classic Kegs should be removed from their box and disposed of separately. Kegs need to be separated from their boxes and placed in to different recycling streams.

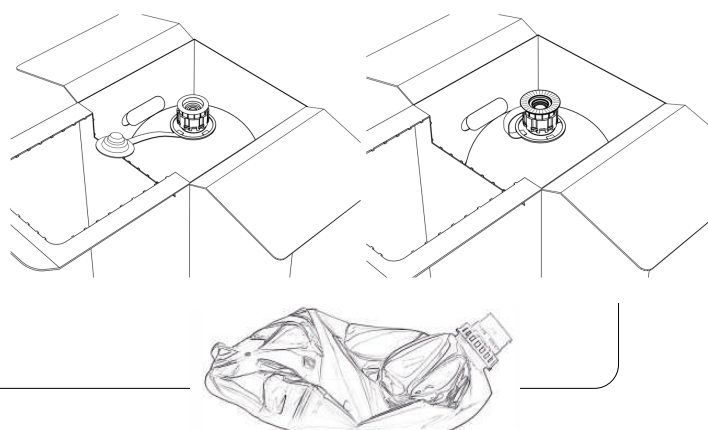
Hybrid Keg

- Remove the locking clips by pushing down the tab on the top chime and sliding off clip over the depressed tab.
- When the clips are removed, lift the top chime from the keg.
- Placing your feet in the grooves in the bottom chime, push the keg away to dislodge it from the bottom chime.
- Place the keg on the floor and crush the keg with your foot, keeping one on the ground for stability.
- Collect all parts of the keg for recycling.



Classic Keg

- Remove the keg from the box
- Place the keg on the floor and crush the keg with your foot, keeping one on the ground for stability.
- Do the same with the cardboard box
- Collect all parts of the keg for recycling.

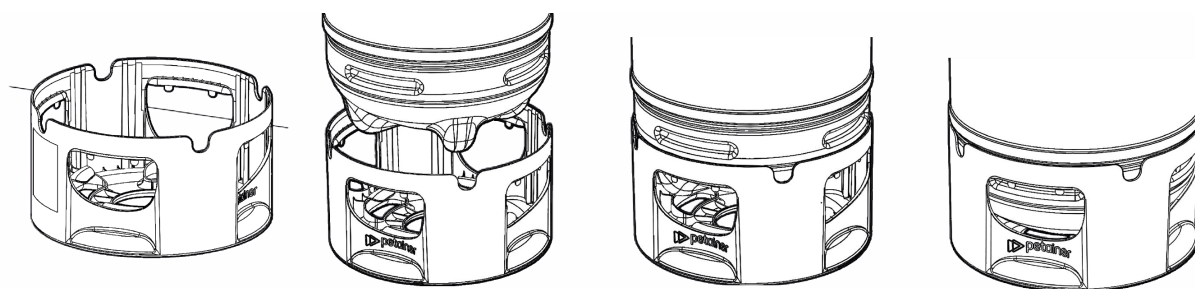


Components	Material	Plastic Code	Waste Sorting
Top & Bottom Chime	HDPE/Polypropylene	2/5	Plastic Recycling
Fitting	Mix	7	Plastic Recycling
Spear	Polypropylene	5	Plastic Recycling
Keg Body	PET	1	Plastic Recycling
Outer Box (Classic Keg Only)	Cardboard	-	Paper Recycling



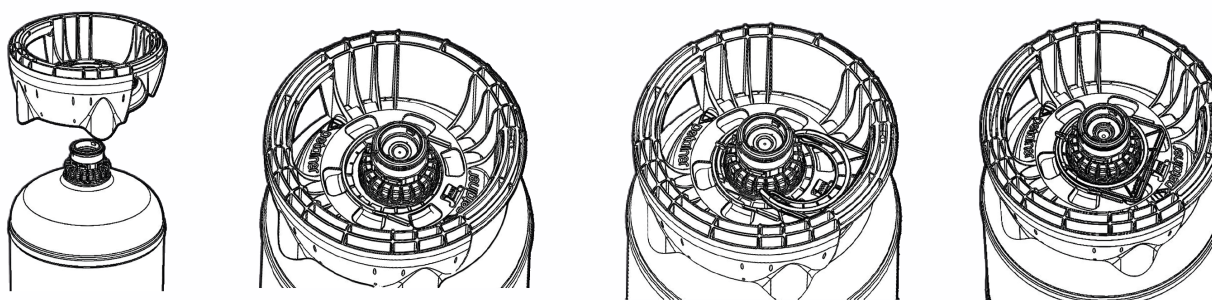
Chime Reuse

Petainer Kegs are designed to be easily dismantled, with the chimes from our Hybrid Keg connected by clips. This allows for the chimes to be removed, but also easily reattached to the kegs. The result is that users have an option to reduce their costs and plastic usage.



Bottom Chime

- Place the bottom chime on a flat and stable surface
- Insert the keg into the bottom chime
- Ensure the keg grooves are aligned with the clip details on the bottom chime 4. Push the keg into the chime until the clip details snap into place.



Top Chime

- Place the top chime down over the fitting of the keg
- Move the chime off centre, moving the locking button inwards
- Insert the clips into the guides, starting with the small clip. Repeat with the large clip in the opposite position until it is seated in the release clip. If your chime only has one clip, insert only that clip
- Apply label to the bottom chime (speak to sales representative for detail).



Petainer Keg Technical Description

	Fitting-Type	Height		Diameter		Weight Total		Box weight		Box height	
KEG		mm	in	mm	in	grams	ounces	grams	ounces	mm	in
30 L CLASSIC	A, G	554	21.8	298	11.7	1330	46.9	830	29.3	606.5	23.9
	S, D	564	22.2			1351	47.7				
	A4, G4	560	22.0								
	S4, D4	571	22.5								
20 L CLASSIC	A, G	557	21.9	243	9.6	1103	38.9	602	21.2	602	23.7
	S, D	568	22.4			1124	39.6				
	A4, G4	563	22.4								
	S4, D4	575	22.6								
15 L CLASSIC	A, G	446.2	17.6	243	9.6	987	34.8	528	18.6	481	18.9
	S, D	456.2	18.0			1006	35.5				
	A4, G4	452.2	17.8								
	S4, D4	463.2	18.2								
10 L CLASSIC	A, G	338	13.3	235	9.3	779	27.5	460	16.2	368	14.5
	S, D	349	13.7			797	28.1				
	A4, G4	344	13.5								
	S4, D4	356	14.0								
30 L HYBRID	A, G, A4, G4	600	23.6	305	12.0	2172	76.6				
	S, D, S4, D4					2193	77.4				
20 L HYBRID	A, G, A4, G4	593.5	23.4	243	9.6	1189	41.9				
	S, D, S4, D4					1210	42.7				
15 L HYBRID	A, G, A4, G4	481.7	19.0	243	9.6	1147	40.5				
	S, D, S4, D4					1166	41.1				

All our kegs are produced according following Regulations:
EU 10/2011; US FDA 21 CFR; GB4896.1-2006; EU GMP 2023/2006; GB31603-2015

Certificates-linked to site in Czech Republic:
ISO 9001:2015; ISO 14001:2015; ISO 22000:2005; ISO/TS 22002-4:2013

Keg-Properties

Max Content Pressure	3.1 bar / 45 psi	CO2 Loss	< 15% (22°C / 72°F); 12 months
Dispense Working Pressure	< 3.1 bar / 45 psi	O2 Ingress	< 0.2 ppm (22°C / 72°F); 9 months
Burst Pressure	>7.75 bar / >112 psi	Storage Unfilled	Recommended < 22°C / 72°F max 50°C / 122°F; 6 months
Drop Functional Test	1.2 m, flat metal surface	UV and Light Protection	Up to 500 nm
ASTM D4169-14	Transport Simulation Test filled kegs (pre-condition 40°C; 72h)	Materials - Keg	PET
Sanitising recommendation	70% Ethanol	Materials - Fitting	POM, PP, TPE, NBR, Stain Steel
pH range compatibility	3 to 9	Cleaning	Cleaning detergents & chemicals may cause stress cracks on the components

Notice: For details or in case of any questions, please contact Petainer's representative.

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