USER MANUAL FOR POLYKEG KEGS

MI01 Rev. 07 dated 26/03/2020

INTRODUCTION

The PolyKeg® one-way keg is for professional use for the tapping of drinks.
This manual provides information, instructions and warnings for the correct management and use of the PolyKeg® one-way keg.

CONTENTS

1. TRACEABILITY AND LABELLING

STANDARD IDENTIFICATION OF THE PALLET

The complete traceability of the product is guaranteed by an identification label attached to every single pack. Fig. 1 shows the data provided on the label in detail.

Fig. 1

VALVE SERIAL NUMBER

Each valve is identified by a unique serial number (Fig. 2).

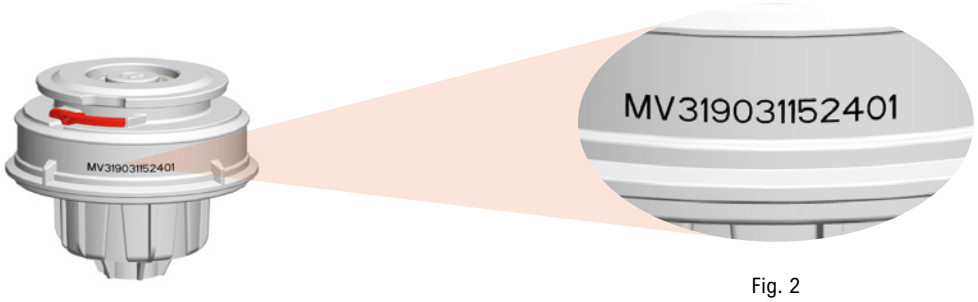


Fig. 2

KEG SERIAL NUMBER

Each keg is identified by a unique serial number (Fig. 3).

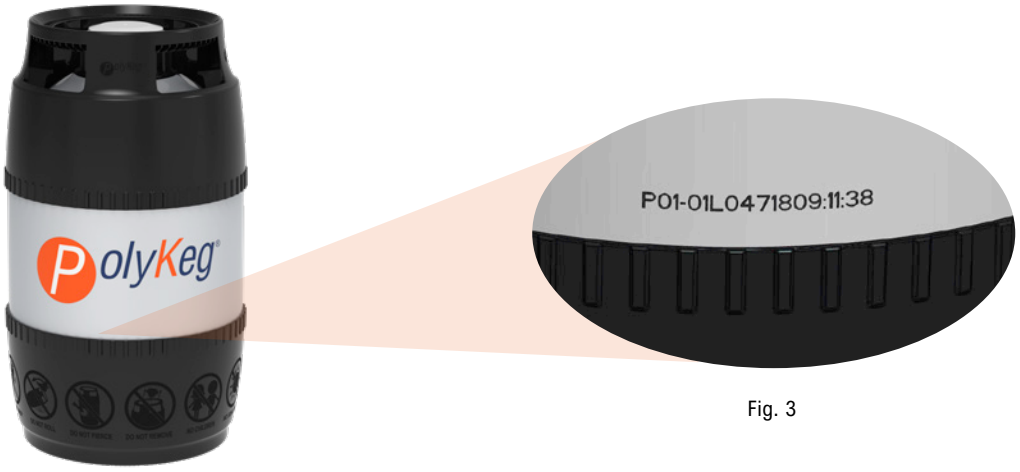


Fig. 3

2. WARNINGS AND RULES FOR SAFETY

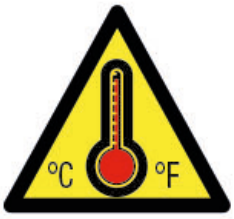
The PolyKeg® one-way keg is for professional use. Before use, consult this user manual as well as the symbols on the keg.

If you are inexperienced in the use of the PolyKeg® keg or tapping systems, contact your suppliers in order to organise appropriate training. The tapping system must be fitted with a suitable pressure reducer complete with a safety valve in order to not exceed the maximum operating pressure indicated on the label.

The incorrect use of the PolyKeg® keg and/or tapping system may damage the keg or lead it to burst, causing harm to persons and/or things. The one-way PolyKeg® keg cannot be re-used, must not be incorrectly disposed of and must be delivered empty and depressurised to an authorised collection centre.

Check the integrity of the keg before and during use.

Leave the warnings on the keg well readable.



KEG TEMPERATURE
0°C < T < 35°C (32°F < T < 95°F)

WORKING PRESSURE
Max 3.5 bar (50 psi)
If over-pressurised, the keg may cause harm to persons and/or things.

HAZARD CO2 AND N2
Read the instructions regarding the use of CO2 and N2 available from your suppliers.
Suffocation hazard.

Keep away from children.

Do not expose to sunlight.

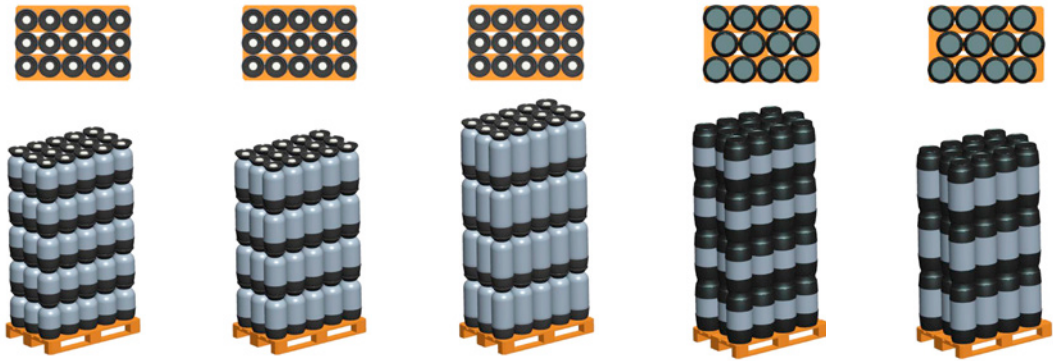
Keep away from corrosive/chemical substances.
Do not use detergents.

Do not perforate and/or cut.

Do not roll and/or allow to fall.

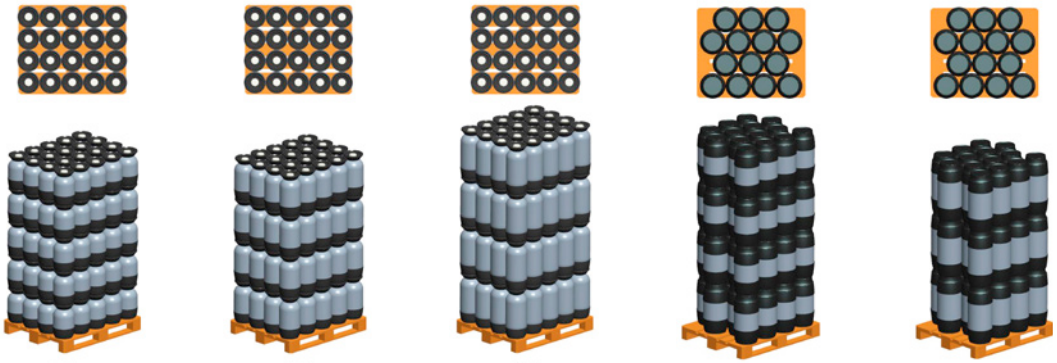
Do not remove or tamper with the valve.

3. HANDLING - STORAGE - TRANSPORT OF EMPTY KEGS

Empty kegs	800x1200 mm PALLETS				
Palleting					
	12 L	**16 L**	**20 L**	**24 L**	**30 L**
N° layers	5	4	4	4	3
Kegs per layer	15	15	15	12	12
Kegs per pallet	75	60	60	48	36
Height (mm)	2124 mm	2090 mm	2442 mm	2402 mm	2152 mm
Height (inch)	83.62”	82.28”	96.14”	95.56”	84.72”

	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs
Lorry (13.6m)	33	2475	33	1980	33	1980	33	1584	33	1188
Container 20 ft	11	825	11	660	11	660	11	528	11	396
Container 40 ft High Cube	24	1800	24	1440	24	1440	24	1152	24	864

Notes	The pallets are wrapped and covered with white stretch film. For the Basic version, a cardboard layer pad is inserted between the various layers. Position of kegs: valve upwards.
Recommendations	Any stacking of pallets must be carried out in consideration of the mechanical properties of the kegs as shown on the technical sheet, of local regulations, of the vehicles and methods for handling and the conditions of the storage areas.

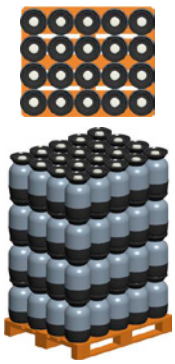
Empty kegs	1000x1200 mm PALLETS				
Palleting					
	12 L	**16 L**	**20 L**	**24 L**	**30 L**
N° layers	5	4	4	4	3
Kegs per layer	20	20	20	14	14
Kegs per pallet	100	80	80	56	42
Height (mm)	2124 mm	2090 mm	2442 mm	2402 mm	2152 mm
Height (inch)	83.62”	82.28”	96.14”	95.56”	84.72”

	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs	n° pallets	n° kegs
Lorry (13.6m)	26	2600	26	2080	26	2080	26	1456	26	1092
Container 20 ft	10	1000	10	800	10	800	10	560	10	420
Container 40 ft High Cube	21	2100	21	1680	21	1680	21	1176	21	882

Notes	The pallets are wrapped and covered with white stretch film. For the Basic version, a cardboard layer pad is inserted between the various layers. Position of kegs: valve upwards.
Recommendations	Any stacking of pallets must be carried out in consideration of the mechanical properties of the kegs as shown on the technical sheet, of local regulations, of the vehicles and methods for handling and the conditions of the storage areas.

4. HANDLING - STORAGE - TRANSPORT OF FULL KEGS

Full kegs	800x1200 mm PALLETS				
Palleting					
	12 L	**16 L**	**20 L**	**24 L**	**30 L**
N° layers	4	3	2	2	2
Kegs per layer	15	15	15	12	12
Kegs per pallet	60	45	30	24	24
Height (mm)	1730 mm	1606 mm	1298 mm	1278 mm	1486 mm
Height (inch)	68.11”	63.22”	51.10”	50.31”	58.50”
Recommendations	Any stacking of pallets must be carried out in consideration of the mechanical properties of the kegs as shown on the technical sheet, of local regulations, of the vehicles and methods for handling and the conditions of the storage areas.				

Full kegs	1000x1200 mm PALLETS				
Palleting					
	12 L	**16 L**	**20 L**	**24 L**	**30 L**
N° layers	4	3	2	2	2
Kegs per layer	20	20	20	14	14
Kegs per pallet	80	60	40	28	28
Height (mm)	2293 mm	1606 mm	1298 mm	1278 mm	1488 mm
Height (inch)	68.11”	63.22”	51.10”	50.31”	58.50”
Recommendations	Any stacking of pallets must be carried out in consideration of the mechanical properties of the kegs as shown on the technical sheet, of local regulations, of the vehicles and methods for handling and the conditions of the storage areas.				

5. INSTRUCTIONS FOR THE SANITISING OF THE KEG

The PolyKeg® keg cannot be re-used and is supplied ready to use. The following indications must be followed in order to guarantee the utmost hygiene of the product.

SUGGESTED PRODUCTS

- Peracetic acid solution (max 2%)
- Hydroalcoholic solution (max 20%) in accordance with the product placed in the keg
- Hot water / steam

WARNINGS:

Check that the detergent / sanitiser is compatible with the product to place in the keg and with the PolyKeg® keg in accordance with the material sheet (section 12 of this manual).

In the case of sanitisation with hot water and/or steam:

- Maximum pressure: 0.8 bar
- Maximum temperature: 100°C
- Exposure time: a few seconds

WHAT TO SANITISE

It is necessary to sanitise all of the surfaces that will come into contact with the product to place in the keg, such as the keg valve, the filling and tapping connector, etc.

It is also necessary to rinse the surfaces treated with the sanitising products with water.

6.INSTRUCTIONS FOR MANUAL FILLING OF KEGS WITH AND WITHOUT BAG

For the manual filling of the kegs, please use the PolyKeg® filling kit compatible with the keg valve (please find the available filling kits list in section 14 of the user manual). In case of A and G type kegs with bag, Micro Matic couplers are recommended.

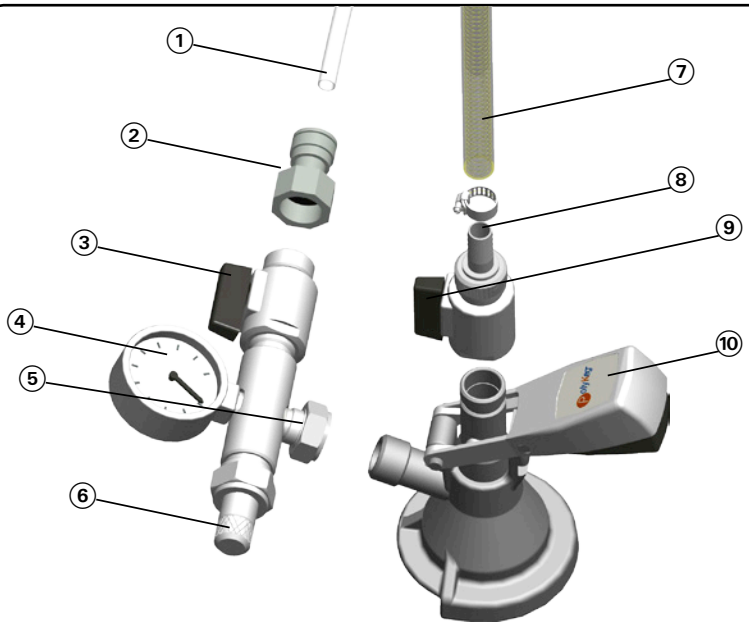


Fig.1

① Gas tube
② Pressure top-up connection
③ Pressure top-up valve
④ Pressure gauge
⑤ Gas regulator connection
⑥ Counter-pressure regulator
⑦ Product tube
⑧ Product filling connection
⑨ Product filling valve
⑩ Keg coupler
Micro Matic is recommended.

6.1 PREPARATION

- Clean and sanitise all connection surfaces (Fig. 1), following the instructions given in section 5 of the user manual.
- Assemble the filling kit as shown in Fig. 2.
- Secure the gas regulator connection ⑤ Fig. 2.
- Close the pressure top – up valve ③ and the product filling valve ⑨ Fig. 2.

  NOTE For the K - valve coupler, open the red valve (Fig. 2 A).
- Close the counter – pressure regulator ⑥ Fig. 2.
- Connect the product tube ⑦ to the product filling connection ⑧ Fig. 3.
- Check that the gas pressure in the system does not rise above the maximum value allowed as mentioned in section 2 of the user manual.
- Connect the gas tube ① as shown in Fig. 3.

  NOTE Use CO_2 or N_2 for PolyKeg® without bag.

  It is possible to use air for PolyKeg® with bag.
- Purge product through the tube ⑦ to ensure no air is left in the tube using product filling valve ⑨ Fig. 3.
- Proceed with the filling as per procedure 6.2.

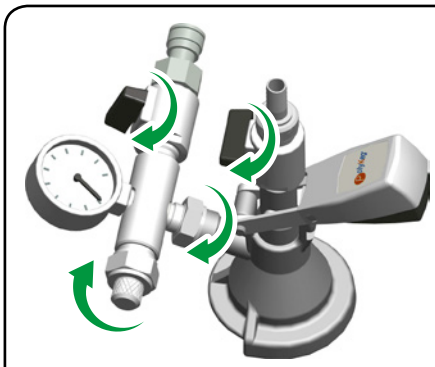


Fig. 2 Manual filling kit

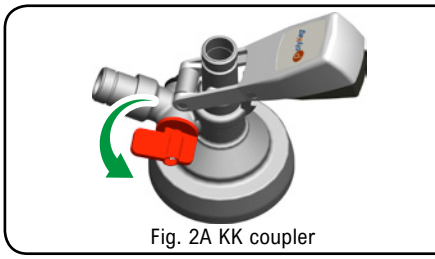


Fig. 2A KK coupler

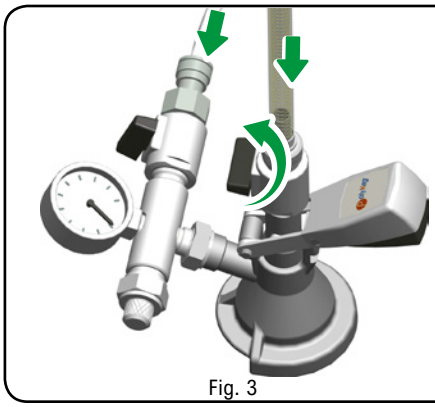


Fig. 3

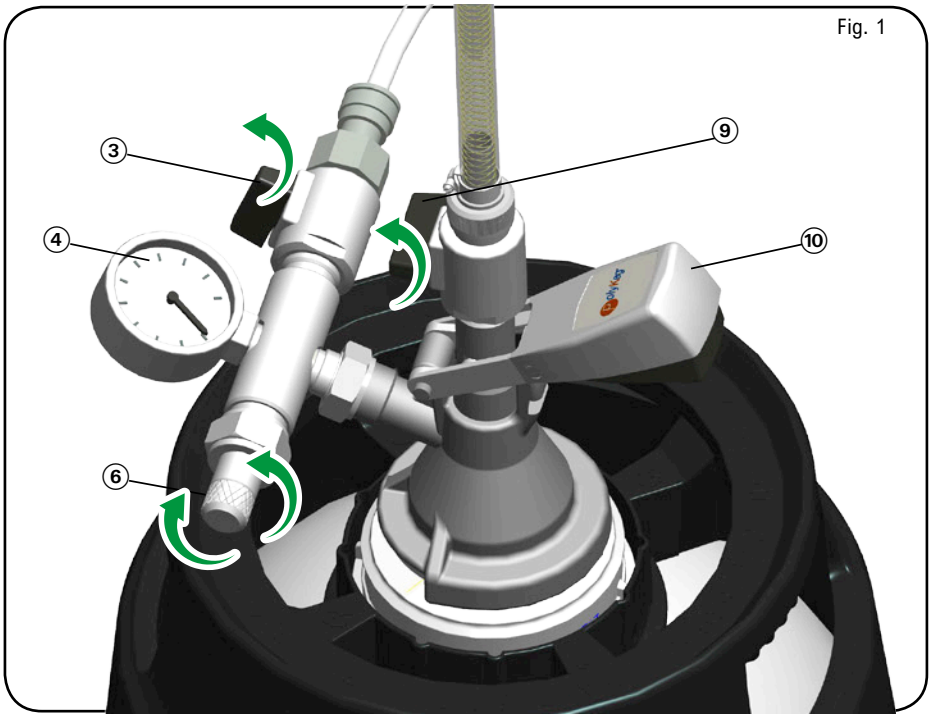


Fig. 1

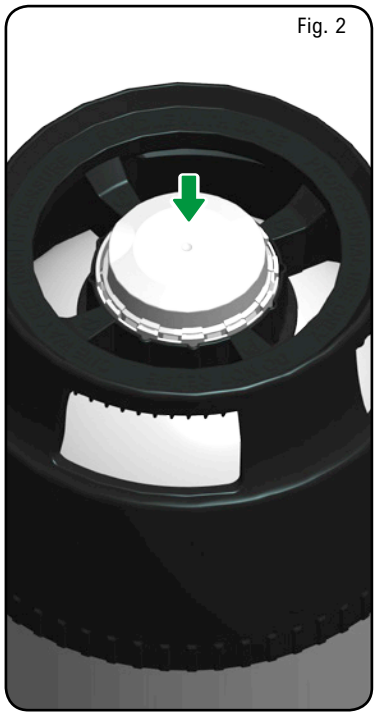


Fig. 2

6.2 FILLING PROCEDURE

- Place PolyKeg® to be filled on a stable level surface.
- Clean and sanitise coupler and valve following the instructions given in section 5 of the user manual.
- Connect the filling head to the valve.
- Lower completely the coupler's handle ⑩ Fig. 1. The pressure gauge ④ will now display PolyKeg's internal pressure.
- To set the counter-pressure, open the pressure top-up valve ③ until reaching the desired counter-pressure value (approximately 0.5 bar less than the product filling pressure) and then close it.
- Open the product filling valve ⑨ Fig. 1 to start the filling process.
- Work on the counter-pressure regulator ⑥ Fig. 1 to set and/or change the product filling speed.
- Once reached the desired product level, close the product filling valve ⑨ Fig. 1.

  NOTE Do not exceed the filling nominal volume to avoid any potential spilling.

  NOTE For kegs with bag, before lifting the coupler's handle at the end of the filling process:

  - Close the counter-pressure regulator ⑥.
  - Open the pressure top-up valve ③ to reach a counter-pressure value equal or superior to the product filling pressure.
  - Close the pressure top-up valve ③.
- Lift quickly the coupler's handle ⑩ Fig. 1.
- Disconnect the filling head from the keg.
- Remove any leftover product from the keg.
- Clean and sanitise the valve.
- Place the tamper evident cap on the valve Fig. 2.

7. INSTRUCTIONS FOR THE AUTOMATIC FILLING OF KEGS WITHOUT BAGS

For the use of the PolyKeg® keg with automatic filling systems, please bear in mind the following indications:

1. The PolyKeg® keg can be filled with the valve facing either upwards or downwards.
2. PolyKeg® kegs are supplied pressurised to 1 bar with nitrogen (ready to be filled).
3. The maximum axial load of the PolyKeg® keg (clamping force) varies in accordance to the internal pressure. Reference values:
   - 100 kg at 1 bar (as supplied).
   - 60 kg at 0 bar (if depressurised during filling).
4. The contact surfaces on the PolyKeg® valve must be sanitised by following the indications in section 5 of this manual.
   - Maximum water pressure: 1 bar
   - Maximum water temperature: 100°C
5. PolyKeg® valves are compatible with the industrial standards for tapping systems. For detailed information regarding filling, request the PolyKeg® technical drawings relative to each specific valve.

FILLING PROCEDURE

1. Connect the filling head to the PolyKeg® valve.
2. Clean and sanitise the valve.
3. Open the keg valve.
4. If necessary, adjust the counter-pressure according to the parameters of pressure/temperature for the product used for filling.
5. Begin filling - the fluid will enter the keg.
6. Once the desired quantity has been reached, stop filling.
7. Close the keg valve.
8. Disconnect the filling head.
9. Remove any product residue from the valve.
10. Clean and sanitise the valve.
11. Apply the protective seal to the valve.

8. INSTRUCTIONS FOR THE AUTOMATIC FILLING OF KEGS WITH BAGS

In order to use the PolyKeg® keg with an inner bag in automatic filling systems, the indications below must be followed:

1. The PolyKeg® keg with bag can be filled with the valve pointing either upwards or downwards.
2. The filling of the bag must take place exclusively via the central channel of the valve (or rather the exit channel for the product during tapping).
3. PolyKeg® kegs with bag are supplied filled with:
   - Pressure of 1 bar between the keg and the bag
   - Pressure of 0.5 bar with CO2 in the bag.
4. The maximum axial load of the PolyKeg® keg (clamping force) varies in accordance to the internal pressure. Reference values:
   - 100 kg at 1 bar (as supplied).
   - 60 kg at 0 bar (if depressurised during filling).
5. The surfaces on the PolyKeg® valve must be sanitised according to the indications in section 5 of this manual.
6. PolyKeg® valves are compatible with the industrial standards for tapping systems. For detailed information regarding filling, request the PolyKeg® technical drawings relative to each specific valve.

IMPORTANT: For the filling of PolyKeg® kegs with bags with A, G or K valves:

- Use the correct filling head stroke - refer to the PolyKeg® technical drawings
- After filling, bring the counter-pressure between the keg and the bag to a level which is equal to or slightly higher than that used for filling.

8.1 FILLING PROCEDURE

1. Connect the filling head to the PolyKeg® valve.
2. Clean and sanitise the valve.
3. Open the keg valve.
4. If necessary, adjust the counter-pressure in accordance with the product pressure/temperature parameters for the product used for filling in order to set and/or vary filling speed.
5. Begin filling - the fluid will enter the keg.
6. Once the desired quantity has been reached, stop filling.
7. Bring the counter-pressure between the keg and the bag to a level which is equal to or slightly higher than that used for filling.
8. Close the keg valve.
9. Disconnect the filling head.
10. Remove any product residue from the valve.
11. Clean and sanitise the valve.
12. Apply the protective seal to the valve.

9. INSTRUCTIONS FOR TAPPING

ATTENTION:

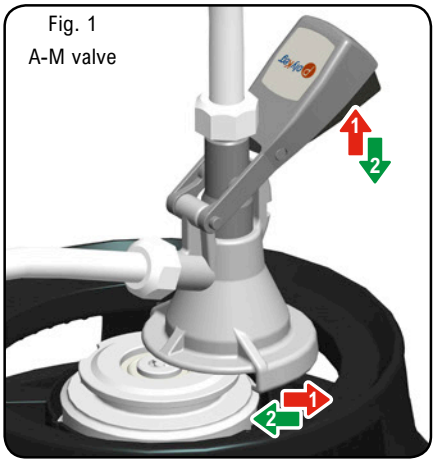
One-way keg for professional use; consult this manual for the PolyKeg® keg and your tapping system before use. If you are inexperienced in the use of the PolyKeg® keg or tapping systems, contact your suppliers in order to organise appropriate training.

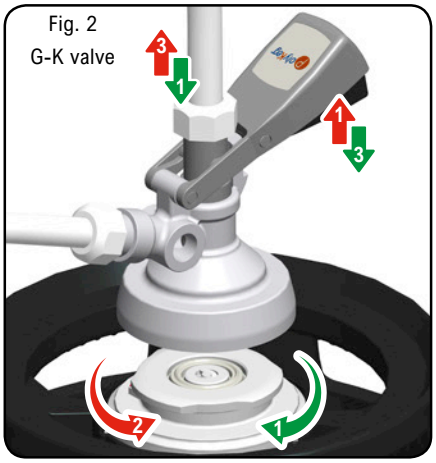
The tapping system must be fitted with a suitable pressure reducer complete with a safety valve, in order to not exceed the maximum working pressure indicated on the keg and in section 2 of this user manual.

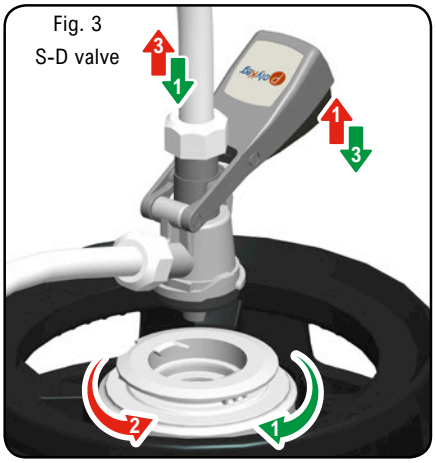
The incorrect use of the PolyKeg® keg and/or tapping system may damage the keg or lead it to burst, causing harm to persons and/or things.

9.1 TAPPING PROCEDURE:

- Wear personal protective equipment (goggles, gloves...).
- Ensure that the area is well-ventilated.
- Check that the calibrated and working pressures of your tapping system have been correctly set.
- Clean and sanitise all connection surfaces in accordance with the indications in section 5 of this manual.
- Fit the connector to the valve of the PolyKeg® keg (Fig. 1-2-3 ⬇) and proceed with tapping.
- To disconnect the keg from the tapping system, proceed as indicated in Fig. 1-2-3 ⬆.







If it is necessary to temporarily disconnect the keg, it must be handled and stored in accordance with the indications in section 2 of this manual.

In order to once again proceed with tapping, repeat the connection procedure according to the indications in section 9.1 of this manual.

When the keg is empty, it will be necessary to immediately depressurise it according to the instructions in section 10 of this manual.

10. INSTRUCTIONS FOR DEPRESSURISATION

Once tapping has finished, it is mandatory for the keg to be depressurised with the dedicated key (Fig. 2) or by breaking the PRV if there (fig. 3). The dedicated key shown in Fig. 2 is suitable for all types of PolyKeg® valves: A, D, G, K, M, S and can be fixed to the top as shown in Fig. 1.

It is forbidden and dangerous to dispose of the keg with residual internal pressure as it may burst and cause harm to persons and/or things.

Fig.1

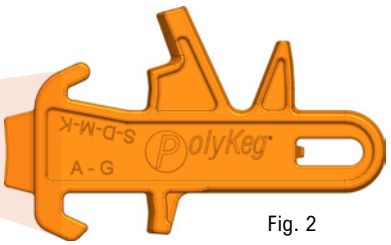


Fig. 2

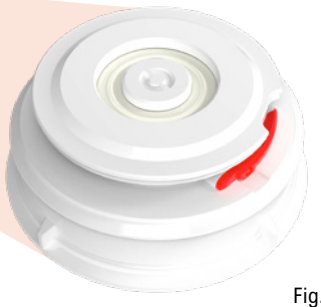


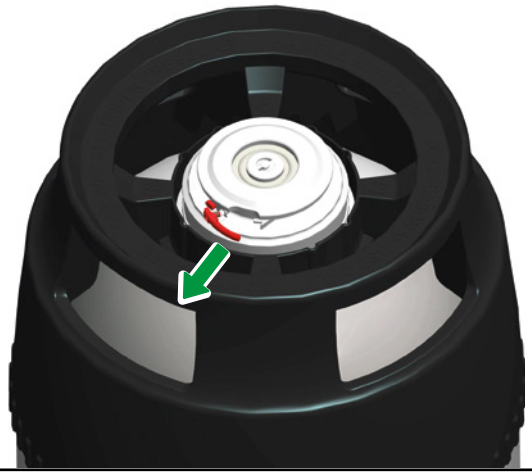
Fig. 3

10.1 DEPRESSURISATION PROCEDURE

1. Wear personal protective equipment (goggles, gloves...).
2. Ensure that the area, where PolyKeg® will be depressurised, is well-ventilated.
3. Once the PolyKeg® is disconnected from the tapping system, remove any residual product from the keg valve.
4. Completely depressurise the keg (0 BAR 0 PSI) with the dedicated key (fig. 4) and/or by breaking the PRV (fig. 5).

Fig. 4

Fig. 5



11. INSTRUCTIONS FOR DISPOSAL

The PolyKeg® keg cannot be re-used, must not be incorrectly disposed of and must be delivered empty, depressurised and dismantled to an authorised collection centre.

For a sustainable approach, the PolyKeg® keg must be separated with the dedicated dismantling key (Fig. 1) into its individual parts as indicated in the procedure.

Fig.1

11.1 DISMANTLING PROCEDURE

1. Check that the keg is empty.
2. Proceed with depressurisation (as indicated in section 10 of the PolyKeg® user Manual).
3. Proceed to unscrew the valve with the dedicated dismantling key (Fig. 2-3).
4. Separate the keg into its parts (A-B-C) (Fig. 4).
5. Compact the bottle as much as possible in order to reduce the environmental impact of transportation.
6. Dispose of the parts (A-B-C) (Fig. 4) separately in authorised centres according to the classification of materials as defined in section 12 of the instruction manual and/or regulations in force.

Fig. 2

Fig. 3

Fig. 4

12. MATERIAL AND SYMBOL INFORMATION SHEET

In order to obtain the highest possible level of recycling, and more sustainable models, every single component of the PolyKeg® keg including the valve spring is made of plastic, facilitating recycling.

Below are indications of the symbols and materials used in accordance with the requirements set out by Directive 94/62/EC (article 8) and the Decision of the European Community 97/129/EC.

	DESCRIPTION	IDENTIFICATION (Decision 97/129/EC)	MATERIAL SYMBOLS (CR 14311:2002)	OTHER
②	**VALVE**	ALTRO OTHER PLASTICS	7 OTHER	
⑤	**BOTTLE**	PET	1 PET	
③	**BAG KIT**	PP, LLDPE OPA, ALU, OPA, PE	5 PP, 4 LDPE, 41 ALU, 90 C/LDPE, 7 OTHER	
③	**TUBE**	PP	5 PP	
① ④ ⑥	**TOP, BASE, TAMPER**	POLYPROPYLENE	5 PP	

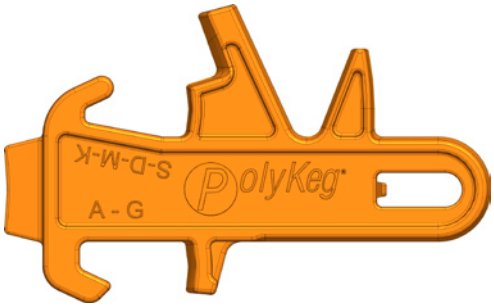
13. ACCESSORIES

PolyKeg® has developed a number of accessories available on request which allow the keg to be handled correctly.

DEPRESSURISATION KEY

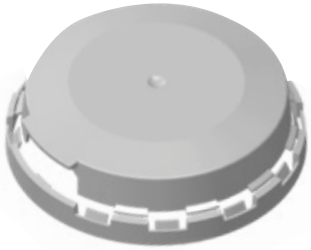
This accessory allows for the complete and safe elimination of the residual pressure contained in the keg before disposal.

For a correct use of the depressurisation key, please refer to the instructions in section 10 of this user manual.



SECURITY SEAL

Applied immediately after filling, this device protects the valve from tampering and / or shocks during transport and storage.



DISMANTLING KEY

This tool allows the unscrewing of the valve and the separation of the keg in its various parts in order to facilitate and optimize recycling. For a correct use of the disassembly key, please refer to section 11 of this user manual.

14. OPTIONAL EQUIPMENT

In order to guarantee the ideal manual filling of the keg, PolyKeg® recommends using Micro Matic connectors, which are available for all PolyKeg® valves A S G D M K.

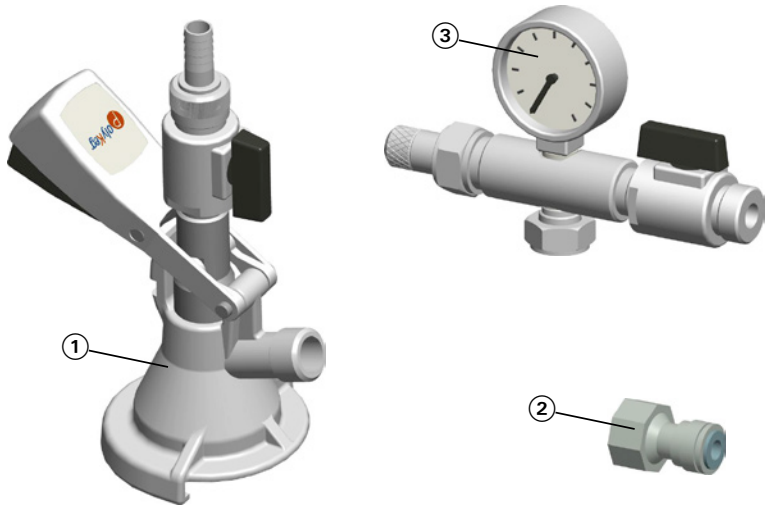
In order to facilitate operations, PolyKeg® has developed a professional filling kit for each valve (Fig. 1). All the kits are available with practical cases.

Each kit is composed of:

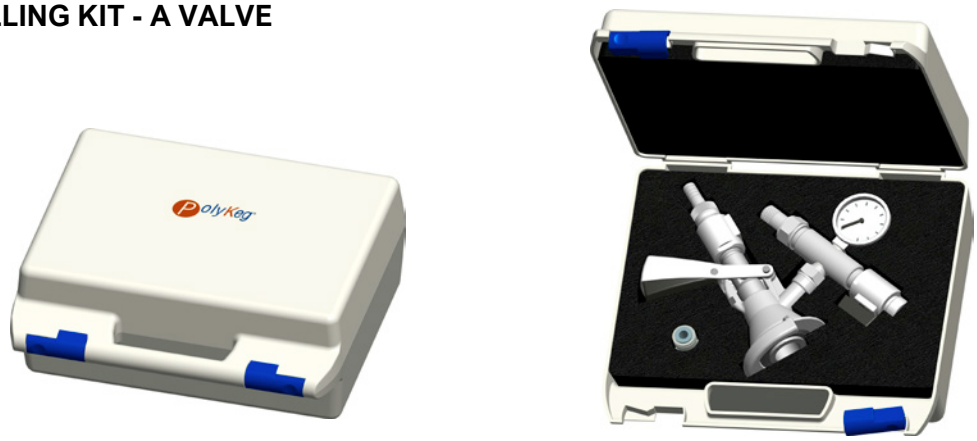
① Micro Matic connector (for A - S - G - D - M - K valves).

② Gas connection.

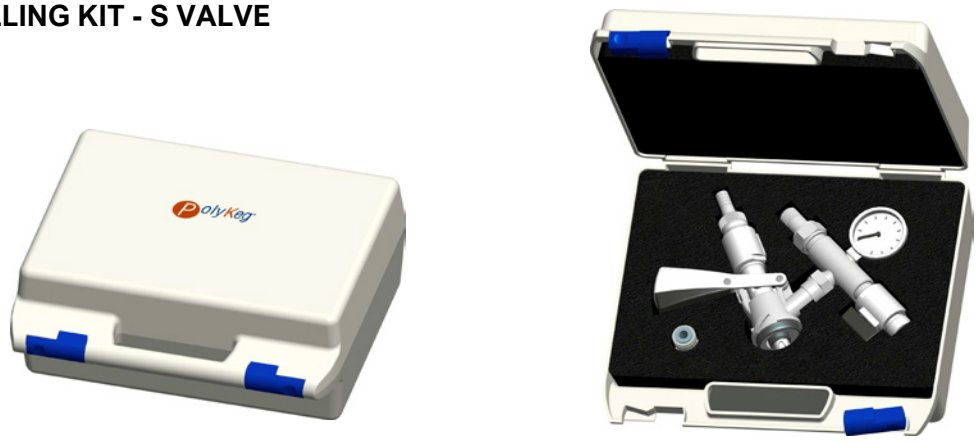
③ Reading gauge.



MANUAL FILLING KIT - A VALVE



MANUAL FILLING KIT - S VALVE



MANUAL FILLING KIT - G VALVE

MANUAL FILLING KIT - D VALVE

MANUAL FILLING KIT - M VALVE

MANUAL FILLING KIT - K VALVE

NOTE

POLYKEG S.R.L.
Via P. Nenni, 51 - 24050 Calcinate (BG) - Italy -
Tel. +39 035 4522245 - www.polykeg.com