NPM

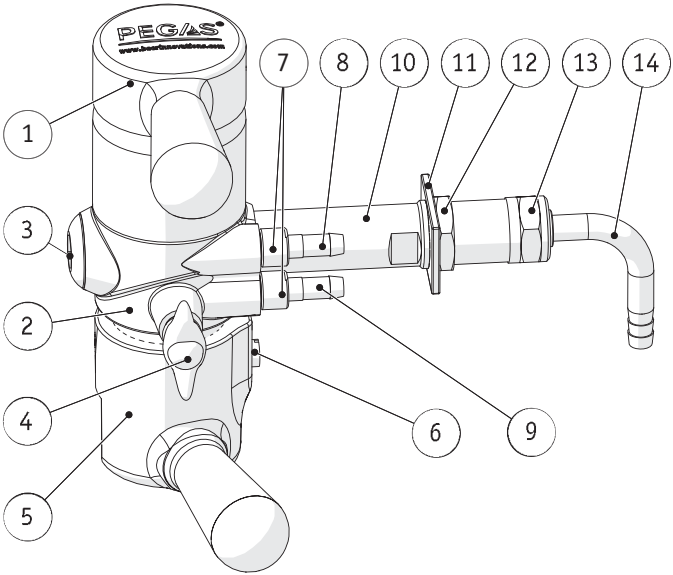
PEGAS®

Evolution

OPERATION MANUAL

CONTENTS

1. PEGAS Evolution Device Diagram



PEGAS Evolution Device Diagram

1. Switch handle **2.** Body **3.** Plug **4.** Throttle valve **5.** Universal bottle holder **6.** Screw **7.** Nut **8.** CO_2 supply nipple **9.** Drain nipple **10.** Shank **11.** Flat washer **12.** 5/8'' nut **13.** Coupling nut **14.** Beverage supply nipple

2. Function of Device

The PEGAS Evolution device is intended for fast foam-free dispensing of foamy and/or arbonated beverages (including beer) from pressurized containers (kegs) into plastic bottles with PCO 1810/1881 or BPF necks. Dispensing is based on the counter pressure method.
This method ensures foam-free dispensing which preserves beverage quality when storing sealed bottles for long periods. The use of new plastic bottles is recommended for beverage dispensing.

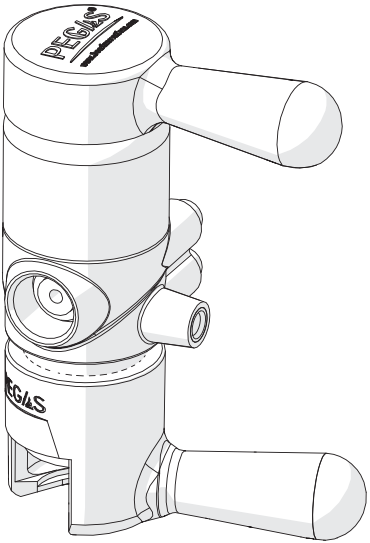
3. Technical Data

Designation		Unit	Value
Filling capacity*		l/hour	45-120
CO_2 pressure when supplied to a keg		MPa	0,25-0,3
CO_2 flow rate (to create counter pressure)**		g/l	0,25-0,3
Device weight	Net	kg	0,75
	Gross	kg	0,85

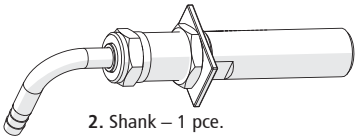
* Estimated when filling a two-liter bottle at 6^0C or less.
** Per liter of product filled under 0.2 MPa of pressure.

4. Assembly and Installation

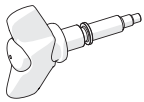
Remove all of the parts from their individual packaging.



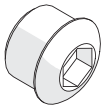
1. Dispensing device – 1 pce.



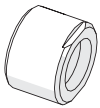
2. Shank – 1 pce.



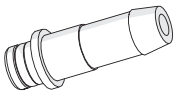
3. Throttle valve – 1 pce.



4. Plug – 1 pce.



5. Nuts – 2 pcse.

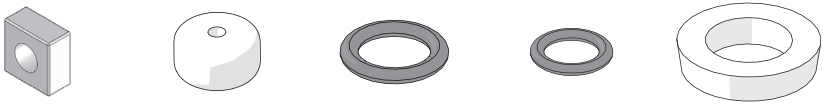


6. Nipples with rings – 2 pcse.

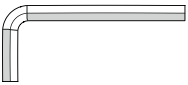
7. Operation manual – 1 pce.

Spare parts set:

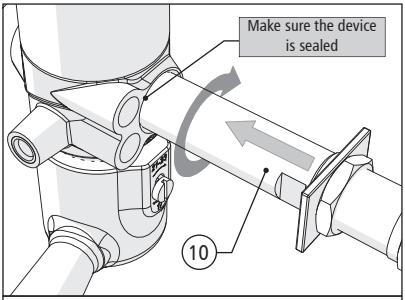
№	IDENTIFICATION	PCS
1	Slider 123016	1
2	O-Ring 131045	2
3	O-Ring 108020	1
4	O-Ring 131044	2
5	Gasket 101014	1



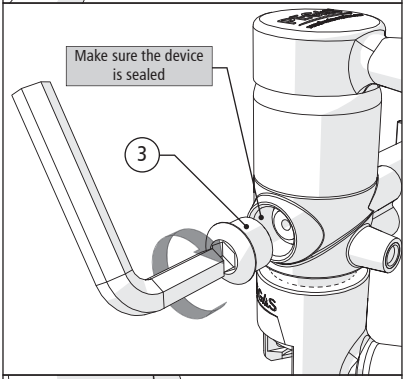
The following tools are required for device assembly and installation:

	Hex wrench S10
	Wrench S19
	Wrench S24
	Wrench S27

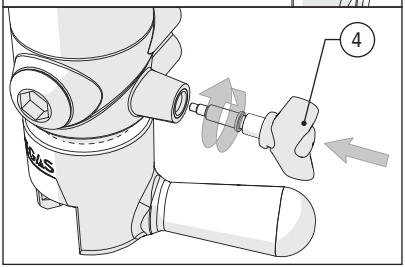
PEGAS Evolution device should be assembled as follows:



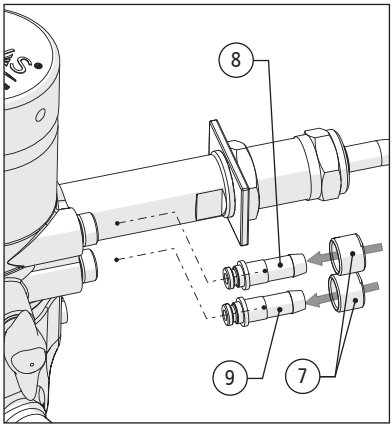
Before installing the shank, make sure the device has a gasket.
Using an S19 wrench, screw the shank into the 5/8" threaded hole in the body.



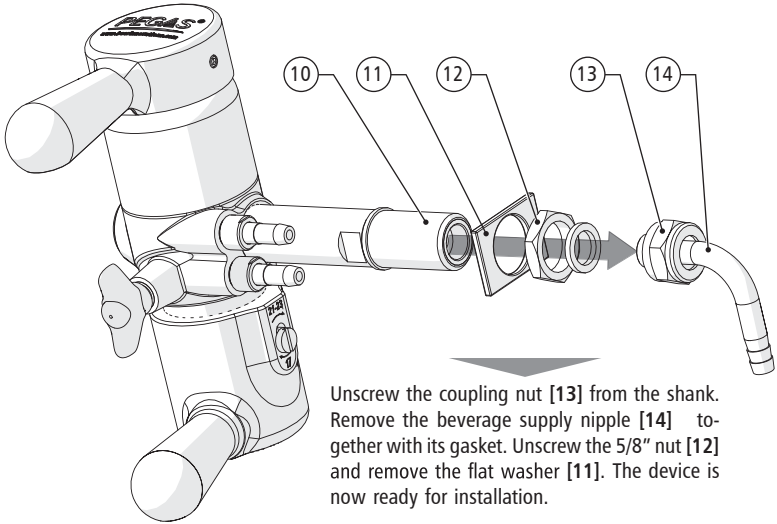
Using an S10 hex wrench, screw the plug into the 5/8" threaded hole or tap for dispensing beer into glasses/mugs. (Tap not included in contents of package)..



Install the throttle valve **[4]**.

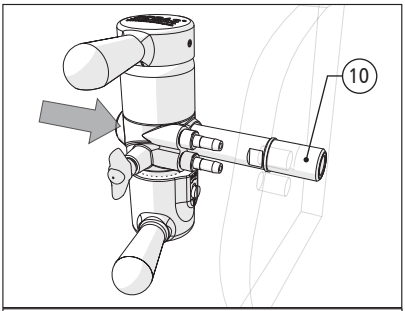


Insert the CO_2 supply nipple and the drainage nipple into the matching holes on the device. Place the nuts on to the nipples and hand tighten them up to the stop.

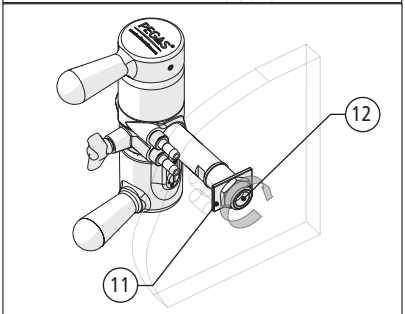


Unscrew the coupling nut **[13]** from the shank. Remove the beverage supply nipple **[14]** together with its gasket. Unscrew the 5/8" nut **[12]** and remove the flat washer **[11]**. The device is now ready for installation.

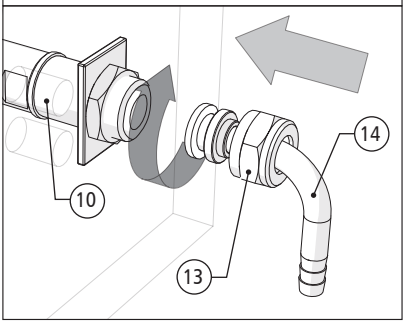
Installation of the device into a 23+ mm through hole



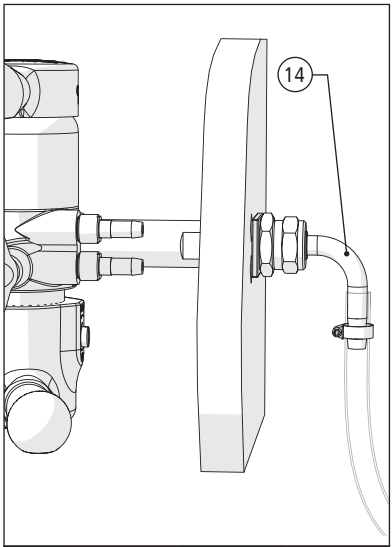
Insert the free end of the shank into the matching hole.



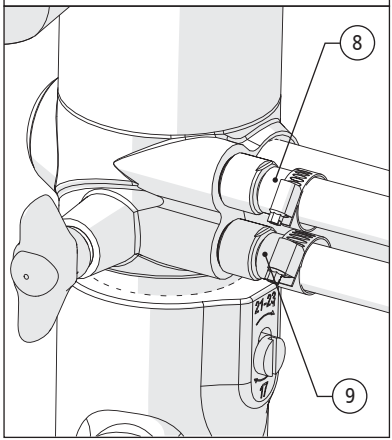
Place the flat washer on to the shank from the inside; tighten the 5/8" nut using an S27 wrench, secure the device in a vertical position with the 5/8" nut.



Place the coupling nut on to the nipple and tighten it with an S24 wrench. Ensure that the gasket is properly placed in position.

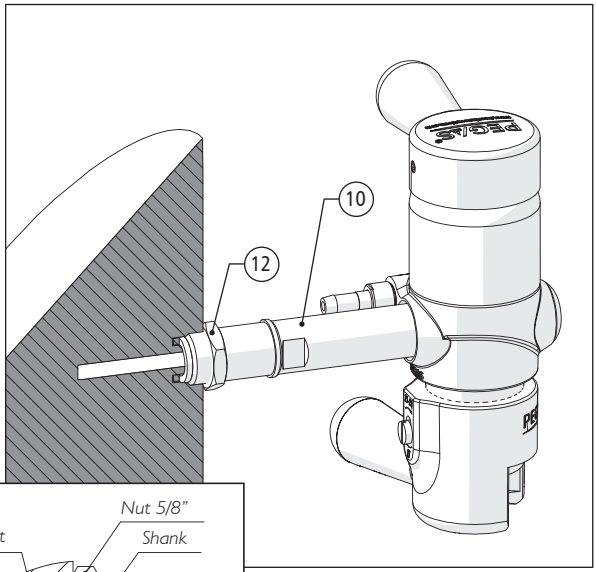


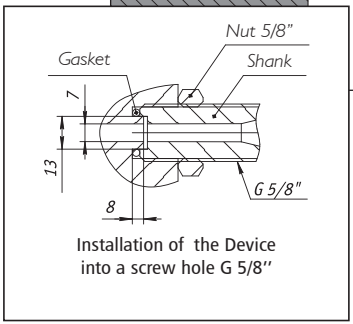
Connect the beverage supply hose to the beverage supply nipple. Fix the hose with a pipe clip (not included to the package).



Connect the CO_2 supply hose to the upper nipple. Connect the drainage hose – to the bottom nipple. Fix the hoses with pipe clips.

Installation of the Device into a Closed G 5/8" Hole (beer tower)





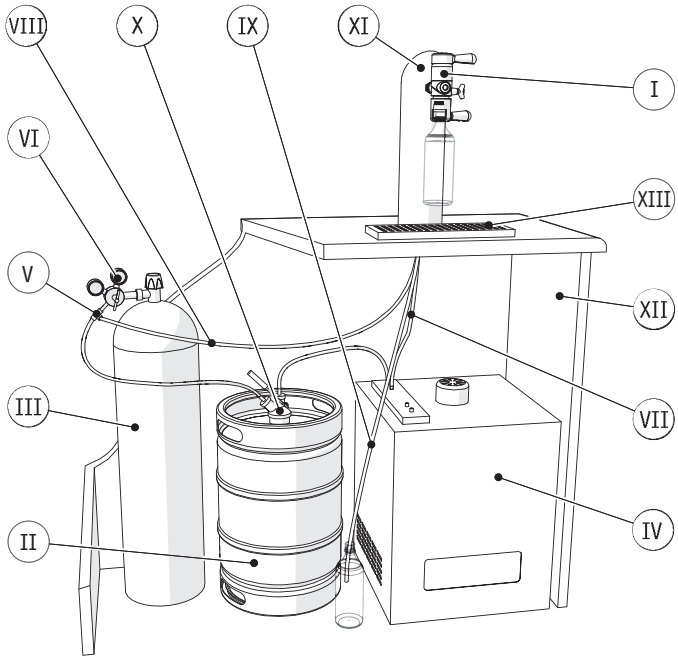
Installation of the Device into a screw hole G 5/8''

When installing device into a G 5/8'' closed screw hole, installation should be done according to the following instructions:

- Place the 5/8'' nut **[12]** onto the shank **[10]** and tighten.
- Place a gasket into the screw hole with the dimensions mentioned above.
- Twist the shank into the hole in such a way that the **PEGAS Evolution** device is in vertical position, and the gasket is pressed down to ensure a proper seal.
- Tighten the nut using a 27mm wrench. The device is now ready to be used.

5. Standard Connection

The device should be installed vertically over a table on a hollow-core beer tower with a diameter of at least 90 mm, or over a bar counter with a through hole with a diameter of 23 mm. The recomendet distance between the axis of the beer supply shank **[10]** and the table surface should be at least 450 mm. When two or more devices are installed, the recomended distance between axis of their shank should be at least 150 mm. A drip tray needs to be installed for collecting any spillage.



I. PEGAS Evolution Device **II.** Beer keg **III.** CO_2 gas cylinder with pressure regulator **IV.** Cooler
V. T-fitting **VI.** Pressure regulator **VII.** Beer supply hose
VIII. CO_2 supply hose **IX.** Drain hose **X.** Keg coupler **XI.** Beer tower
XII. Table top **XIII.** Drip tray

The following equipment is required for device connection:

- Beer keg with a coupler.
- Gas cylinder with pressure regulator (adjustable to 0.15–0.25 MPa).
- Beer cooler.
- Beer supply from the keg and CO_2 supply are provided through PVC hoses (with inner diameter of 7–9mm).
- Pipe clips to secure hoses.
- T-fitting.

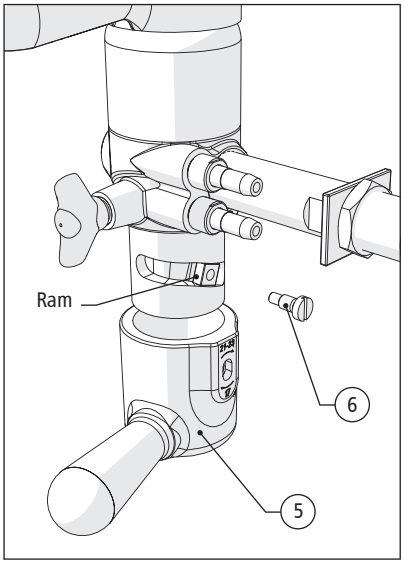
The device should be connected as follows:

- Supply beer from the keg coupler **[X]** into the cooler **[IV]**, and from the cooler to the beer supply nipple **[14]**.
- Supply gas under a pressure of 0,25-0,3 MPa from the gas cylinder **[III]** through the T-fitting **[V]** towards the keg coupler **[X]** and through the hose **[VIII]** to the CO_2 supply nipple.
- Close the free ends of the hoses with pipe clips.
- Connect the hose to the drainage nipple **[9]**. Put the free end of the hose into the drainage tray.
- Place the hoses **[VII-IX]** inside the beer tower. To supply the hoses from the device to the beer tower, drill two holes of at least 14 mm diameter in the beer tower, or install the device onto a beer tower with ready-made holes.

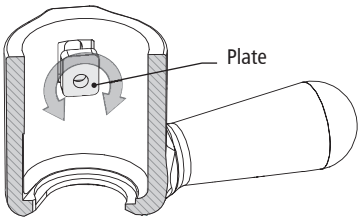
6. Changeover of the universal holder mechanism

The PEGAS Evolution is equipped with a universal bottle holding mechanism.

For beverage dispensing use plastic bottles with PCO 1810, PCO 1881, BPF standard necks.

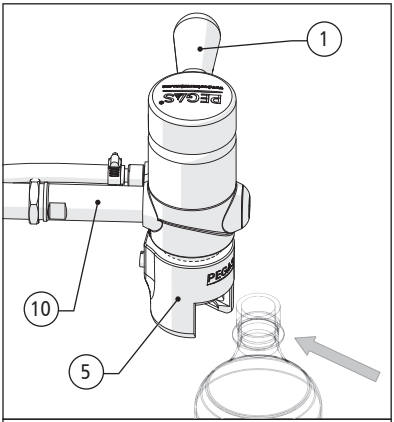


Unscrew the device **[6]** and remove the bottle holder mechanism from the unit. The ram will be left in the groove of the housing. Take out the metal plate, turn it and set in the desired position. Install the bottle-fixing mechanism back in to the unit ensureing that the ram is in the groove of the unit. Align the metal plate hole with the ram hole and tighten the screw up to the stop.



7. Dispensing procedure

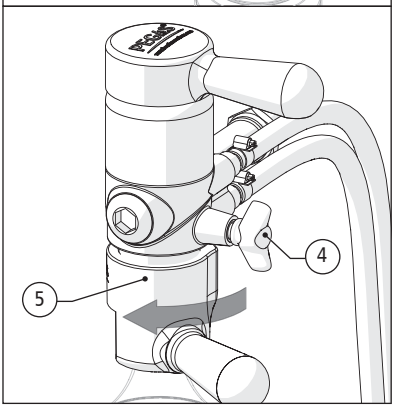
Before dispensing make sure the device is properly installed and connected, and that all of the joints are sealed tightly. Dispensing into plastic bottles with the PEGAS Evolution should be done as follows:



Initial Position

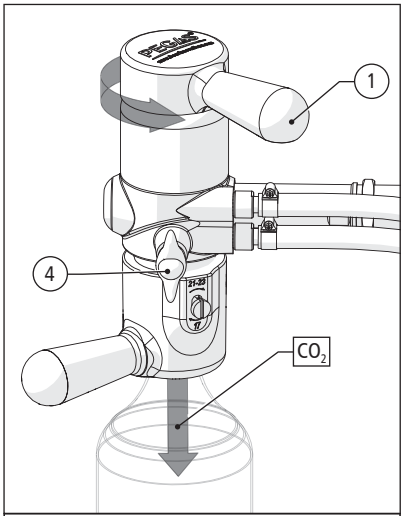
Ensure that the switch handle **[1]** is in its neutral position, it should be perpendicular to the shank all supplies are of. The bottle holder **[5]** is turned to the right until it stops. The throttle valve **[4]** is closed (turned clockwise until it stops).

Insert a PET bottle into the slot of the bottle holder.



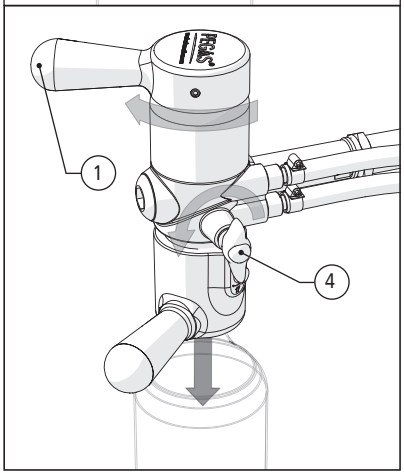
Securing the bottle in the holder

Turn the bottle-holder to the left ensuring that the bottle neck is pressed tightly against the sealing gasket.

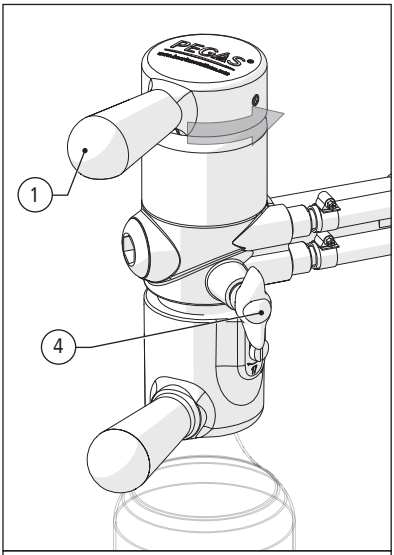


Filling the Bottle with CO_2
until it stops, this will supply CO_2 into the bottle (throttle valve remains closed). The average time for filling a two-liter bottle is 3-5 seconds. Feel the bottle to make sure it's hard.

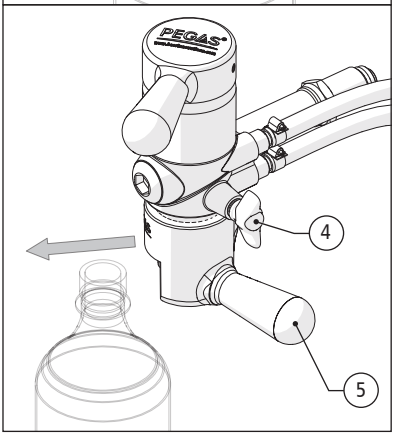
When switching the channels do not lift the handle!



Filling the Bottle with Beverage
Pull the switch handle to start beverage dispensing. Set the throttle valve to a half-open position. Control the process of filling the bottle by adjusting the throttle valve. If the beverage becomes too foamy – slightly close the throttle valve, if the flow is too slow – open the throttle valve.



Completion of Dispensing
Once the bottle is filled, return the switch handle to its neutral position and open the throttle valve completely.



Bottle removal
Wait a few seconds until the pressure in the bottle equalizes to the atmospheric pressure. Close the throttle valve. Turn the bottle-holder to the right and remove the filled bottle from the device.

In order to preserve beer quality, seal the bottle with a leak-proof cap as quickly as possible.

8. Device Maintenance

Only the personnel who have studied the operations manual and have been trained to safely operate the device should be allowed to maintain the device.

A heavy daily beer flow through the **PEGAS Evolution** may eventually clog the beer supply elements, as well as the drain and throttle parts, and hoses.

In order to avoid the clogging and fouling of device elements, the dispenser should be washed and disinfected regularly.

Washing

To clean the device a sanitary liquid should be supplied from a hose-adapted container placed at the beer keg position. The beer supply hose and the **PEGAS Evolution** device itself are the first ones to be washed. In order to wash the drain hose, a plastic bottle should be placed into the down-hold mechanism. When the plastic bottle overflows, the drain and throttle elements are clean.

PEGAS Evolution Sanitary Standards

Sanitary Rules for the Brewing and Beverage Industry 3244-85* stipulate that dispensing devices should be washed daily for 30 minutes both in hot (60°C) and cold water.

Weekly disinfection of the device (using Antiformin, Sulfochlorantin, Benzalkonium Chloride disinfectants) and a thorough rinse with water until the full dissolution of the disinfecting agent has been reached is required.

* This standarts is currently in effect in the territory of the Russian Federation. Maintenance of the device should be done according to the schemes described by Chart 1.

Sanitary and hygienic measures:

Type of sanitary procedure	Frequency	Cleaning agent	Time, min.	t^0, C	Source of cleaning agent
Washing	Every day after use	Water	10	60	Water pipe
Rinsing		Water	15	20	Water pipe
Disinfection	Weekly	Neomoscan Sepa or similar agents used in food processing equipment disinfection	10-15	60	Container with a proper fitting (wash-keg)
Rinsing	After each disinfection	Water	10	40-60	Water pipe
Rinsing		Water	15	20	Water pipe

Chart 1

Sanitary procedures:

- Disconnect the beer keg from the beer supply system.
- Prepare a container for collecting used used water/cleaning agent.
- Make sure that the changeover valve handle is in its middle position.
- Connect the beer dispensing system to the source of water/cleaning agent.
- Place an empty plastic bottle (preferably of small capacity) into the universal bottle holder; fasten it by turning the bottle holder lever to the left.
- Open the throttle valve.
- Pull the switch valve handle until it stops.
- Make sure to control the rate of fill as it can overflow rapidly. Be prepared to collect any excess solution from the drain hose.
- Sanitary procedures should be implemented according to time frames prescribed by the chart.
- In order to stop the supply of water/cleaning agent, turn the switch valve handle to its neutral position.
- Remove the bottle from the device.
- Use a clean cloth to remove the remaining water/cleaning agent from the surface of the PEGAS Evolution device.

9. Troubleshooting

Problem	Possible cause	Steps to solve the problem
Beer does not pour	No beer in the keg	Replace the keg
	Coupler is not connected to the keg	Connect the coupler to the keg
	No gas in the gas cylinder	Replace the gas cylinder
	Pressure regulator is closed	Open the pressure regulator
	Improper connection of hoses to the device	Check that the hoses are connected properly, reconnect them in the right sequence
	Hoses or their joints are damaged	Replace the hoses that are out of order
	Beer/gas supply hoses are clogged	
	Pressure release valve is closed/clogged	Open/unclog the pressure release valve
Gas is not being supplied into the bottle	No gas in gas cylinder	Replace the gas cylinder
	Pressure regulator is closed	Open the pressure regulator
	Improper connection of gas supply hoses to device	Check if hoses are connected properly, reconnect them in the right sequence
	Hoses or their joints are damaged	Replace hoses, make sure that joints are connected tightly
The bottle does not fit in the fixing mechanism properly	Bottleneck does not correspond to standards stated in the operation manual	Use the correct bottles or try other bottles
	Bottle fixing mechanism is damaged	Check and replace the bottle fixing mechanism
	The bottle holder is not set correctly	Proceed with a bottle holder mechanism changeover as described in section 6
A lot of foam during bottle filling	Pressure release pace is too fast	Adjust the pressure release pace
	Pressure regulator is set incorrectly	Set pressure according to the type of beer dispensed
	Gas in the gas cylinder is running out	Replace the gas cylinder
	Beer in the keg is running out	Replace the keg
	Not enough gas is supplied to the bottle	Supply more gas into the bottle
	Beer supply hose is clogged/greased	Wash the device
Beer leaks when the changeover valve is closed	Foreign objects are clogging the beer channel	Unclog the beer channel and remove any foreign objects
	Rubber gaskets in the beer channel have worn out	Replace the worn-out gaskets

10. Safety Measures

It is important to follow certain operation rules in order to ensure the reliability of the device.

• Containers used for dispensing should correspond to sanitary and hygiene requirements set forward to foodstuffs packaging. Bottles must be clean and bear no visible signs of damage or cracking.

• The device requires regular maintenance.

• Do not set the device pressure to a position higher than 0.4 MPa.

Regular washing and disinfection as well as a constant monitoring of the sanitary condition of the PEGAS Evolution will ensure a long life span and smooth function of the device.

11. Additional Information

No part of this operations manual shall be copied, transferred, re-written, saved as a reserve copy or translated into any language in any form and by any means without prior written notice issued by NPM, Ltd.

NPM, Ltd. reserves the right to change characteristics and properties of the device described in the present manual at any time and without prior notification.

NPM, Ltd. bears no responsibility for any damage connected to the use of the PEGAS Evolution device. NPM, Ltd. would appreciate any information in relation to errors and flaws found in the this operations manual.

The flow swich of **PEGAS Evolution** dispensing device is a high duty effective appliance which ensures operating capability of the whole device for at least 100 000 cycles. Providing a proper maintenance (see section 8), the flow swich will effectively operate through the whole warranty period.

Upon expiry of the warranty period, the rings 131044 and 131045 are to be replaced.

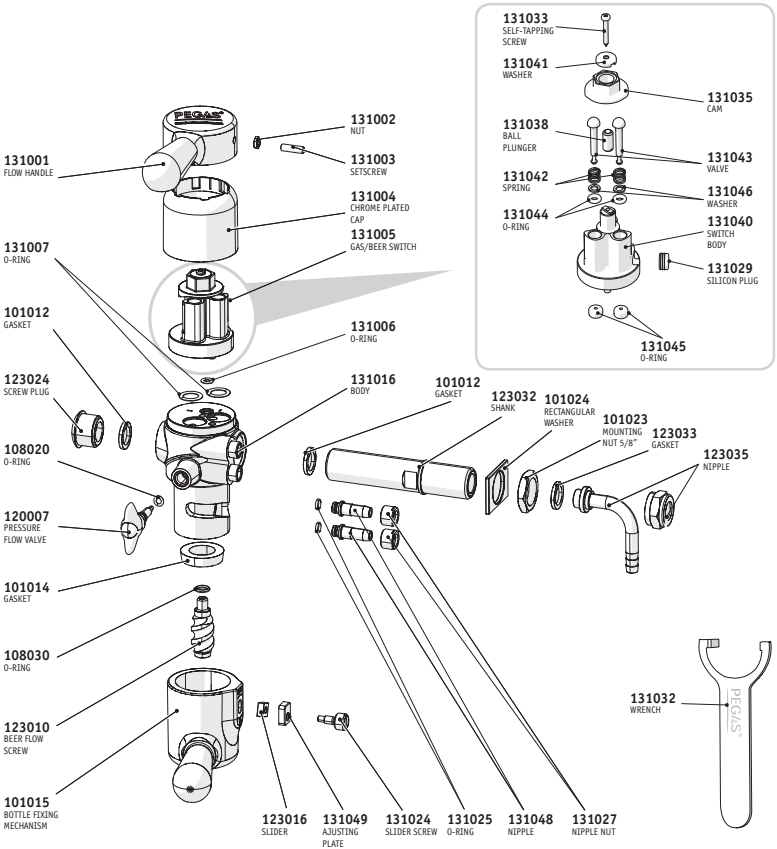
The rings shall be replaced in the following order:

- Unscrew the screw 131033, take off the washer 131041 and the cam 131035.
- Take off the ring 131045 by pressing the valve on the side of the ring.
- Pull the valve 131043, the spring 131042, o-ring 131044, the washer 131046 from the flow switch.
- Replace the rings 131044 and 131045.
- Assemble the switch in reverse order.

MAINTENANCE FOR SEASONAL OPERATION:

In case the device needs to be dismantled (parked) for winter months, it should be cleaned with wash liquid (alkali), then with antiseptics and finally washed off with warm water in order to remove any substances from the working channels. This will ensure that having been installed at the beginning of the next season the device will effectively operate again. Should the seasonal maintenance recommended in this manual is not properly executed, before starting the operation again it is advised to replace the same parts as upon expiry of the warranty period.

Device diagram for ordering spare parts



Product number

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