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# PEG/返S<sup>™</sup> novotap

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## **Operation Manual**

PEGAS NovoTap, PEGAS NovoTap+

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#### 1. Assembling Diagram



#### 2. Device Purpose

The PEGAS NovoTap device is intended for fast foamfree manual dispensing of foamy and/or carbonated beverages (e.g. beer) from pressurized vessels (kegs) into plastic bottles with PCO or BPF necks. Dispensing is based on backpressure method. Backpressure method consists of filling an empty bottle with gas under the pressure equal to the pressure in a keg with beverage. This method provides foam-free dispensing and keeps beverage quality in case of a long-term storage in sealed bottles. It is recommended to use clean bottles for beverage dispensing. The PEGAS NovoTap+ package includes a G 5/8" shank which gives an option to mount a beer tap to its body for filling glasses/mugs, etc.

#### 3. Technical Data

		Unit	Value	
Filling capacity	y	liter/hour	45-120	
CO2 pressure supplied to a keg		MPa	0.15-0.25	
Co2 flow rate (to create back	(pressure)	kg/hour	0.2-0.8	
Weight	Net	kg	2.1	
	Gross	kg	2.2	

#### 4. Package Contents

The device is supplied in a separate package including:

- PEGAS NovoTap device - Operation manual - Wrench - Tee fitting	-1 pc -1 pc -1 pc -1 pc
Spare parts:	
- Valve O-ring (39)	-1 pc
- Drainage O-ring (35)	-1 pc
- PET bottle O-ring (46)	-1 pc
- Ring 004-007-19 (27)	-2 pc
- Ring 005-008-19 (28)	-2 pc
- Ring 006-009-19 (29)	-2 pc
- Ring 008-011-19 (30)	-1 pc
- Ring 011-014-19 (31)	-1 pc
- Ring 019-022-19 (33)	-1 pc
- Ring 045-048-19 (34)	-1 pc
- Ring of a changeover valve (32)	-2 pc

## 5. Device Assembly, Installation and Connection

The device shall be installed vertically over a table or a bar counter on a hollow-core beer tower (D = 90 mm at least) with a through hole (d = 23 mm) so that the bottle fixing mechanism shall look downward. The distance between the axe of the shank and the table surface shall be not less than 450 mm. If two devices are installed, the recommended distance between their shanks shall be at least 150 mm.



Before mounting the device to a beer tower it is necessary to check whether hoses can be freely connected to nipples (26) of tee adapter (44) provided that the tee adapter is located strictly vertically and looks downwards (hoses shall be connected from below). If the hoses can not be freely connected, it is necessary to replace the tee adapter with a different one (meant for side / rear connection of hoses). A drip tray (62) shall be provided on the table. (See Fig. 1a).



The following equipment is required for the device connection (See Fig. 1a):

- A keg with beer and a keg coupler (52,53)
- A gas cylinder with a pressure regulator (0.15 - 0.25 MPa)(54)
- A beer cooler (55)

PVC hoses (56, 57, 58) with 7 - 9 mm inner diameter are used for beer supply, CO<sub>2</sub> supply and drainage. Hoses shall be secured on nipples and tee fitting by means of screw clamps.

- Hollow-core beer tower (d = 90 mm at least)(59)
- Tee fitting (60)
- Table (61)

The device shall be assembled, installed and connected as follows (numbers are given as per Assembling diagram Fig. 1a, Fig. 1b):

Before installation beer tap handles (45) shall be screwed to bolts (10, 11).

**1)** Put hoses for beer supply (56), CO<sub>2</sub> supply (57) and drainage (58) inside a beer tower as shown in Fig. 1a: (photo 01)

**2)** Connect one end of beer supply hose (56) to beer supply nipple (26a) of tee adapter (44) and the other end to beer cooler (52); (photo 02)





3) Connect one end of CO<sub>2</sub> supply hose (57) to CO<sub>2</sub> supply nipple (26b) of tee adapter (44) and the other end to tee fitting (60); (photos 03, 04)





4) Supply beer from keg coupler (53) to beer cooler

5) Supply CO<sub>2</sub> under 0.15 - 0.25 MPa pressure from aas cylinder (54) through tee fitting (60) to keg coupler (53) and CO<sub>2</sub> supply nipple (64) of tee adapter (44); (photo 05)

**6)** Connect drainage hose (58) to drainage nipple (26c) of tee adapter (44) and put the free end of the drainage hose into an empty drain container: (photo 05)

7) Make sure that all 3 rings (28) are located in the point of shank (8) connection to tee adapter (44). Rings shall be placed in grooves of tee adapter (44). Further assembly and installation procedures without these rings will result in the device malfunctions; (photo 06)



8) Connect shank (8) to tee adapter (44) by means of 2 semi-rings (18) and coupling nut (17). Use the wrench included in the kit to ensure tight connection of the thread joint; (photos 07, 08)





9) Screw nut (49) on shank (8), then put flat washer (50) on shank (8); (photo 09)



**10)** Inside of the beer tower put shank (8) with nut (49) and flat washer (50) through a hole of the beer tower. Outside the beer tower screw nut (25) onto shank (8) by means of the wrench included in the kit so that the tight connection of shank (8) to the beer tower is provided and the groove of the end surface of the shank looks strictly downwards. Adjust the position of shank (8) by tightening/loosening nut (49) if required; **(photos 10, 11)** 





**11)** Make sure that all 3 rings (28) are located in the point of shank (8) connection to the back part of the body (4). Rings shall be placed in grooves of the back part of the body (4). Further assembly and installation procedures without these rings will result in the device malfunctions; **(photo 12)** 



**12)** Connect shank (8) to the back part of the body (4) by means of 2 semi-rings (18) and coupling nut (17). Use the wrench included in the kit to ensure tight connection of the thread joint;

(photos 13 – 16)



### 13) The device is ready for operation; (photos 17, 18)





**14)** In the PEGAS NovoTap+ package the hole in the front part of the device body (2) is intended for mounting a beer tap with G 5/8'' shank. (photos **19**, **20**)





#### 6. Filling Procedure

Before filling make sure that the device is installed and connected properly (see Section 5) and all joints are connected tightly. Bottle filling procedure consists of the following steps (all numbers correspond to Fig.2):







Changeover valve with handle (I) is in the medium (vertical) position (all supplies are cut off). Handle of the bottle fixing mechanism (II) is turned to the right until it stops (the bottle fixing mechanism is opened). Pressure release valve (III) is closed (handle is turned clockwise until it stops).

Figure 5.1 Initial position



Figure 5.2 **Bottle fixing**  Install a bottle into bottle fixing mechanism (IV). The support ring of the bottleneck shall be inside the fixing mechanism. If you release the bottle, it shall hang strictly in a vertical position. Turn handle of the bottle fixing mechanism (II) to the left. Bottle fixing mechanism (IV) with the bottle inside it will slightly raise. The bottleneck shall be tightly pressed to the O-ring (the pressing force is sufficient if the bottle cannot be turned around its axis by hand).



Make sure that pressure release valve (III) is closed. Push handle of the changeover valve (I) to start CO<sub>2</sub> supply into the bottle and keep it in this position. When gas supply noise subsides, there is enough gas in the bottle. The bottle shall become firm if squeezed by hand. Release handle (I) to cut off the CO2 supply.



Figure 5.4 Bottle filling with beer



Pull the handle of the changeover valve (I) until it dicks showing that the changeover valve is set in the beer supply position. If beer is not coming into the bottle at the moment, it means that there is enough gas in the bottle. (If beer is coming into the bottle, there is not enough gas in the bottle. Proceed filling the bottle this time and supply more gas during the next filling). Slightly turn handle of the pressure release valve (III) counterclockwise to open the valve. Adjust the bottle filling rate (increase/decrease) by opening/ closing pressure release valve (III). If there is much foam in the bottle, it means that the selected bottle filling rate is wrona.

Fill the bottle a bit lower the desired level. Turn handle of the pressure release valve (III) clockwise until it stops to close the valve. Push handle of the changeover valve (I) in the medium (vertical) position to cut off the beer supply.

Completion of filling



Slightly open pressure release valve (III). Wait a few seconds. If there is no active foaming in the bottle, wait for the bottle to become soft. If there is active foaming in the bottle, control the opening of the pressure release valve until the foaming stops. Wait for the bottle to become soft. Turn handle of the bottle fixing mechanism (II) to the right in the initial position until it stops. Take the filled bottle out of the device. Close pressure release valve (III).

To keep beer quality it is required to seal the filled bottle with a closure as soon as possible after taking the bottle out of the device.

#### 7. Device Maintenance

Only the personnel who have studied this manual and have been trained on the safe operation of the device are allowed to maintain the device. The device shall be maintained as shown in Table 1.

Type of washing	Frequency	Cleaning agent	Time, min.	ť℃	Concentration, %	Source of working solution	٩
Washing	Daily after using the device	Water	10	20	-	Water pipeline	Hygienic ance Program EGAS NovoTal
Rinsing		Water	15	70-85	-	Water pipeline	
Washing - desinfection	Weekly	For choice: Neoseptal OS/ Neomoscan Sepa/ Neomoscan RD-B	10-15	60	2.0 1.0 1.0	Vessel with proper fitting (washing keg)	
Rinsing	After washing - desinfection	Water	10	40-60	-	Water pipeline	Table 1. Mainten for the F
Rinsing		Water	15	20	-	Water pipeline	τų Σ

Washing procedures shall be performed as follows:

Please, PAY ATTENTION: Numbers in points 1-12 correspond to Fig. 2!

1) Disconnect a beer keg from the beer supply system;

2) Prepare a container for collecting spent working solution (water);

**3)** Make sure that handle of the changeover valve (I) is set in the medium (vertical) position;

**4)** Connect the beer supply system to the source of working solution (water);

**5)** Install an empty plastic bottle (preferably a small one) into the bottle fixing mechanism (IV) and press it by turning handle (II) to the left;

6) Open the pressure release valve by turning handle (III) counterclockwise;

**7)** Pull handle of the changeover valve (I) until it clicks showing that changeover valve (I) is set in the beer supply position;

8) Watch the bottle filling. Soon the excessive working solution (water) appears in the drainage hose due to the opened pressure release valve. Be prepared to collect the spent working solution (water) from the drainage hose;

9) The device shall be washed as long as it is shown in Table 1;

**10)** Push handle of the changeover valve (I) in the initial vertical position to cut off the working solution (water) supply;

11) Take the bottle out of the fixing mechanism;

12) Repeat steps 2 – 11 if rinsing is required;

# Please, PAY ATTENTION: Numbers in points 13 – 34 correspond to the Device Assembling Diagram!

**13)** Unscrew back part of the body (4) from shank (8) containing beer supply, CO<sub>2</sub> supply and drainage hoses by means of the wrench included in the kit;

**14)** Unscrew a screw (9) provided for fastening bushing (7) to body (5) by means of 6 mm hex-nut wrench. Remove the bottle fixing mechanism. Be careful not to lose O-rings (28, 34);

**15)** Unscrew beer tap handle (45) and bushing (48) from bolt of the bottling fixing mechanism (11);

**16)** Unscrew bolt of the bottle fixing mechanism (11) from ring (13);

17) Remove bushing (7) with bottle fixing mechanism (19) and screw (9) inside it from ring (13). Be careful not to lose roller (21);
18) Unscrew screws M5 (51) and disconnect front part of the body (3) from body (5 or 1). If a beer tap is installed, disconnect the front part of the body (2) together with the beer tap from the body. Be careful not to lose 0-ring (28);

**19)** Wash thoroughly the beer tap as per the manufacturer's manual if required;

**20)** Wash thoroughly with a brush the channel located in the end of the body part (1);

**21)** Wash thoroughly and remove dirt from surfaces of the following parts: ring (13), bottle fixing mechanism (19), bushing (7), roller (21), bott of the bottle fixing mechanism (11), and screw (9);

**22)** Insert O-ring (28) into the groove of body part (5 or 1), and connect this body part to front part of the body (3). If a beer tap is installed, connect this body part to front part of the body (2) together with the beer tap by means of screws M5 (51);

**23)** Place bushing (7) inside bottle fixing mechanism (19) so that the groove of bottle fixing mechanism and the dowel of bushing match;

**24)** Place roller (21) in the extreme position of the groove of bottle fixing mechanism (19);

**25)** Carefully insert the bottle fixing mechanism with bushing and roller into ring (13) so that the ring hole provided for bolt of the bottle fixing mechanism (11) matches with the roller (21) hole;

**26)** Screw bolt of the bottle fixing mechanism (11) into the ring (13) hole, make sure that there is no backlash if rotating parts relative to each other; **27)** Screw bushing (48) and handle (45) onto bolt

of the bottle fixing mechanism (11);

**28)** Place screw (9) inside bushing (7);

**29)** Put ring (30) onto screw (9) thread;

**30)** Insert rings (28), (34) into grooves of the body part (5);

**31)** Install the assembled bottle fixing mechanism onto body (5 or 1) so that the parts holes match;

**32)** Tighten the parts by screw (9) using 6 mm hexnut wrench;

**33)** Connect back part of the body (5) to shank (8) containing beer supply, CO<sub>2</sub> supply and drainage hoses by means of the wrench included in the kit;

**34)** Remove the remaining working solution (water) from the device surface using a clean cloth.

Precautions, re-use, methods for collecting and disposal of working solution are specified in the manuals issued by its manufacturer.

The PEGAS NovoTap device is manufactured with high accuracy and surface condition. During the operation its parts get highly adjusted to each other. It is recommended not to replace the similar parts taken from the different PEGAS NovoTap units. O-rings and movable parts of the device shall be periodically greased with BERULUBER FR 6, BERULUBER FR 7 GSN or similar grease which is allowed to be used in food industry.

#### 8. Precautions

The following rules shall be observed to ensure the device failure-free operation:

**1)** It is prohibited to use bottles which are not allowed to contact with food according to sanitary norms.

**2)** It is prohibited to set pressure above 0.4 MPa in the device.

**3)** Only regular control of the device sanitary condition guarantees its safe and failure — free operation. Regular washing of the device is strictly required (see Section 7).

#### 9. Warranty

The manufacturer provides 12-month warranty from the date of sale and undertakes to eliminate defects arisen through the manufacturer's fault. The manufacturer bears no responsibility for the defects resulting from the device misuse, in particular, from the absence of regular washing. The manufacturer reserves the right to modify the device design in order to improve its consumer properties.

#### 10. Acceptance and sale information

The PEGAS NovoTap is manufactured in accordance with Technical Specifications TY 5131-002-48278688-04. The device has passed the presale testing and inspection for conformance to all applicable standards and is approved good for operation.

## 11. Comments and claims on quality shall be sent to:

#### Novosibirskprodmash Co. Ltd.

Russia, 630108, Novosibirsk, P.O. Box 175 Tel./fax: **+7 (383) 211-90-49**, <u>E-mail: pegas@prodmash.ru</u>

Date of manufacture:

Date of sale:

#### 12. Troubleshooting

Problem	Possible cause	Remedy	
	No beer in the keg	Replace the keg	
Beer is not coming into the bottle	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	
	Misconnection of hoses to the device	Check if hoses are connected in the right order, correct what is wrong	
	Hoses or their joints are damaged	Check the hoses, eliminate the damages	
-	Beer/gas supply hoses are clogged	Replace the defective hoses	
-	Pressure release valve is closed/sticky	Open/wash the pressure release valve	
	No gas in the gas cylinder	Replace the gas cylinder	
C	Pressure regulator is closed	Open the pressure regulator	
Gas is not supplied into the bottle	Misconnection of gas supply hoses to the device	Check if hoses are connected in the right order, correct what is wrong	
	Hoses, their joints are damaged	Replace the defective hoses, check if the joints are tightly connected	
Bottle fails to be fixed	Bottleneck does not meet PCO or BPF standard	Use the bottles with PCO or BPF necks	
	Bottle fixing mechanism is defective	Check and replace the bottle fixing mechanism if required	
A lot of foam during bottle filling	Incorrect pressure is set in the pressure regulator	Set pressure according to the beer type	
	Gas in the gas cylinder is running out	Replace the gas cylinder	
	Beer in the keg is running out	Replace the keg	
	There is not enough gas in the bottle	Supply more gas into the bottle	
	Pressure release rate is too high	Adjust the pressure release rate	
	Beer supply hose is contaminated	Wash the device (see Section 7)	
Beer, CO2 or foam leaks from parts joints	Improper tightening of parts	Tighten all thread connections by means of proper instrument	
	Rubber O-rings are worn out	Check and replace O-rings if required	
Beer, CO2 or foam leaks from the bottle filling channel	0-rings of the changeover valve are worn out	Replace the worn-out parts	
	Changeover valve springs are loosened	Replace the worn-out parts	
to be fixed A lot of foam during bottle filling Beer, CO2 or foam leaks from parts joints Beer, CO2 or foam leaks from the bottle	Bottle fixing mechanism is defective         Incorrect pressure is set in the pressure regulator         Gas in the gas cylinder is running out         Beer in the keg is running out         There is not enough gas in the bottle         Pressure release rate is too high         Beer supply hose is contaminated         Improper tightening of parts         Rubber 0-rings are worn out         0-rings of the changeover valve are worn out	Use the bottles with PCO or BPF necks Check and replace the bottle fixing mechanism if Set pressure according to the beer type Replace the gas cylinder Replace the keg Supply more gas into the bottle Adjust the pressure release rate Wash the device (see Section 7) Tighten all thread connections by means of prope instrument Check and replace 0-rings if required Replace the worn-out parts	

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