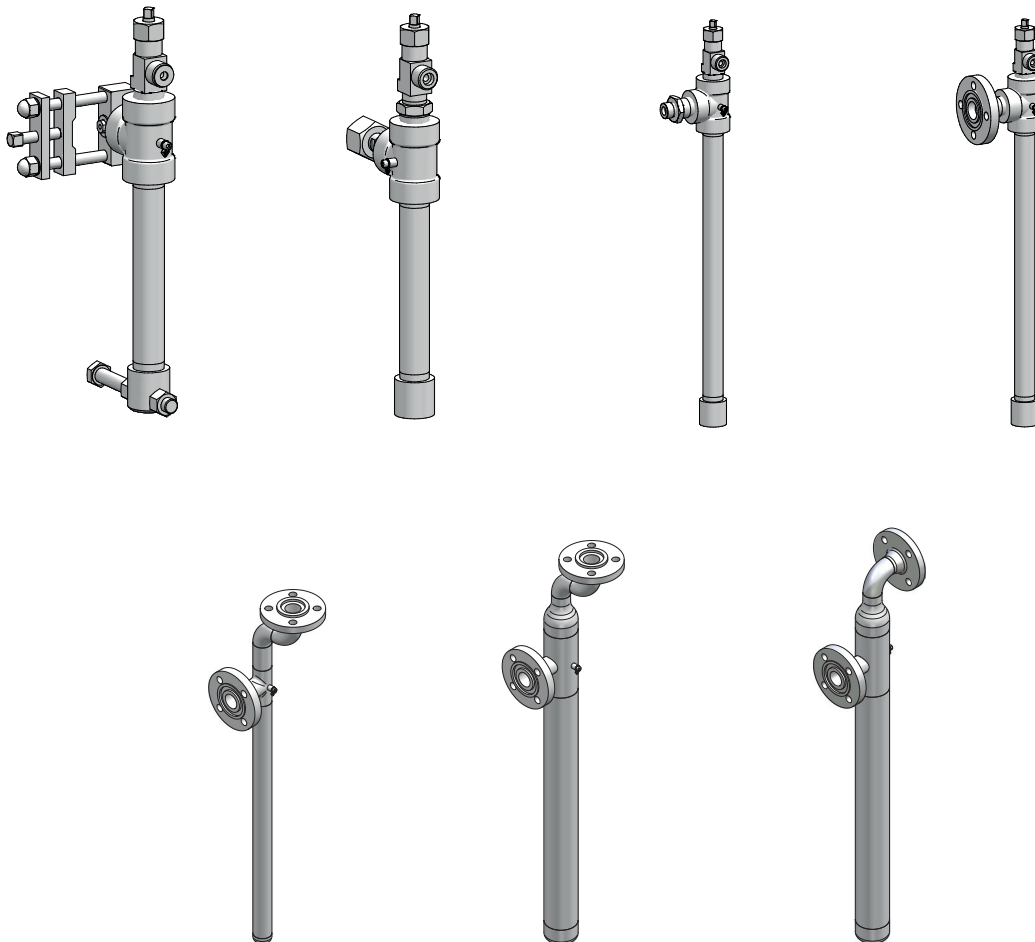


Catchpot

Operating instructions



Read the operating manual!

The user is responsible for installation and operation related mistakes!

Table of Contents

1	Notes for the Reader	4
1.1	General non-discrimination	4
1.2	Explanation of the signal words	4
1.3	Explanation of the warning signs	4
1.4	Identification of warnings	4
1.5	Identification of action instructions	4
2	Safety	5
2.1	General warnings	5
2.2	Information about chlorine	5
2.3	Hazards due to non-compliance with the safety instructions	5
2.4	Working in a safety-conscious manner	6
2.5	Personal protective equipment	6
2.6	Personnel qualification	6
3	Intended use	8
3.1	Notes on product warranty	8
3.2	Intended purpose	8
3.3	Predictable error messages	8
4	Product description	9
4.1	Scope of delivery	9
4.2	Structure of the device	9
4.3	Technical data	9
5	Dimensions	10
5.1	Catchpot for barrel assembly	10
5.2	Catchpot for wall mounting	11
6	Installation	13
6.1	Installation location	13
6.2	Installing the device	13
6.3	Installing the heating collar	14
6.4	Completing the installation	14
7	Operation	15
7.1	Commissioning	15
7.2	Test intervals	16
7.3	Shut-down	16
7.4	Troubleshooting	16
7.5	Disposal of old equipment	16
8	Maintenance	17
8.1	Device maintenance	17
8.2	Spare parts	17
9	Notes to EU conformity	18
10	EU Declaration of Conformity	19
11	Declaration of no objection	20
12	Warranty claim	21
13	Index	22

1 Notes for the Reader

This operating manual contains information and behaviour rules for the safe and designated operation of the product.

Observe the following principles:

- Read the entire operating manual prior to commissioning the product.
- ensure that everyone who works with or on the product has read the operating manual and follows the instructions.
- maintain the operating manual throughout the service life of the product.
- pass the operating manual on to any subsequent owner of the product.

1.1 General non-discrimination

In this operating manual, only the male gender is used where grammar allows gender allocation. The purpose of this is to make the text easy to read. Men and women are always referred to equally. We would like to ask female readers for understanding of this text simplification.

1.2 Explanation of the signal words




Different signal words in combination with warning signs are used in this operating manual. Signal words illustrate the gravity of possible injuries if the risk is ignored:

Signal word	Meaning
DANGER!	Refers to imminent danger. Ignoring this sign may lead to death or the most serious injuries.
WARNING	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to death or severe injuries.
CAUTION!	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to minor injury or damage to property.
PLEASE NOTE	Refers to a danger which, if ignored, may lead to risk to the machine and its function.

Tab. 1: Explanation of the signal words

1.3 Explanation of the warning signs

Warning signs represent the type and source of a danger:

Warning sign	Type of danger
	Danger to life from chlorine poisoning
	General danger zone
	Danger of damage to machine or functional influences

Tab. 2: Explanation of the warning signs

1.4 Identification of warnings

Warnings are intended to help you recognise risks and avoid negative consequences.

This is how warnings are identified:

Warning sign	SIGNAL WORD
Description of danger. Consequences if ignored. ⇒ The arrow signals a safety precaution to be taken to eliminate the danger.	

1.5 Identification of action instructions

This is how pre-conditions for action are identified:

- ✓ Pre-condition for action which must be met before taking action.
- ✗ A resource such as a tool or auxiliary materials required to perform the operating instructions.

This is how instructions for action are identified:

- ➔ Separate step with no follow-up action.
- 1. First step in a series of steps.
- 2. Second step in a series of steps.
 - ▶ Result of the above action.


- ✓ **Action completed, aim achieved.**


2 Safety


2.1 General warnings


The following warnings are intended to help you to eliminate the dangers that can arise while handling the product. Risk prevention measures always apply regardless of any specific action.


Safety instructions warning against risks arising from specific activities or situations can be found in the respective sub-chapters.


	DANGER!
<p>Danger to life from chlorine poisoning!</p> <p>Chlorine is poisonous. In severe cases, breathing in chlorine may lead to death. It irritates the eyes, the respiratory system and the skin.</p> <ul style="list-style-type: none"> ⇒ Use sufficient personal protective equipment. ⇒ When carrying out any assembly and maintenance work, always use breathing apparatus with a Type B gas filter that complies with EN 14387. ⇒ Always comply with the accident prevention regulations that apply at the place of use. 	

	DANGER!
<p>Danger to life from chlorine poisoning!</p> <p>If chlorine gas escapes, a filter mask is ineffective, since it is not a self-contained breathing apparatus.</p> <ul style="list-style-type: none"> ⇒ If chlorine gas escapes, wear a Type 2 self-contained breathing apparatus that complies with EN 137. 	

	DANGER!
<p>Danger to life from chlorine poisoning!</p> <p>Leaks may allow chlorine gas to escape. In severe cases, breathing in chlorine may lead to death.</p> <ul style="list-style-type: none"> ⇒ Get rid of leaks without delay. ⇒ Only use seals once. Reusing them leads to leaks. 	

	DANGER!
<p>Danger to life from chlorine poisoning!</p> <p>Chlorinators without gas warning devices are an increased safety risk, since it is not possible to detect escaping chlorine gas in good time or at all.</p> <ul style="list-style-type: none"> ⇒ Install a gas warning device. 	

	WARNING
<p>Increased risk of accidents due to insufficient qualification of personnel!</p> <p>Chlorinators and their accessories must only be installed, operated and maintained by personnel with sufficient qualifications. Insufficient qualification will increase the risk of accidents.</p> <ul style="list-style-type: none"> ⇒ Ensure that all action is taken only by personnel with sufficient and corresponding qualifications. ⇒ Prevent access to the system for unauthorised persons. 	

	PLEASE NOTE
<p>Damage to the plant due to the formation of hydrochloric acid</p> <p>Chlorine gas is highly hygroscopic. This means that humidity enters the system at any open connection on equipment or pipes, which results in the formation of hydrochloric acid thus inevitably causing damage to the units.</p> <ul style="list-style-type: none"> ⇒ Keep all connections closed at any time. ⇒ You must get rid of even very minor leaks without delay. Together with the humidity, chlorine forms hydrochloric acid and corrosion results in increased leakage. 	

2.2 Information about chlorine

Chlorine is a hazardous substance. The chemical element chlorine is a green-yellow, toxic gas with pungent odour. It is 2.5 times heavier than air and accumulates at ground level.

Chlorine is extremely toxic for water organisms. The reason for the toxicity of chlorine is its extraordinary reactivity. It reacts with animal and vegetable tissue and thus destroys it.

Air with a chlorine gas content of 0.5 -1% leads to a quick death in mammals and humans, as it attacks the respiratory tract and the pulmonary alveolus (formation of hydrogen chloride or hydrochloride acid).

2.3 Hazards due to non-compliance with the safety instructions

Failure to follow the safety instructions may endanger not only persons, but also the environment and the device. The specific consequences can be:

- Failure of major device and corresponding system functions,
- Failure of required maintenance and repair methods,
- Danger for individuals due to chlorine gas escaping,
- Danger to the environment caused by substances leaking from the system.

2.4 Working in a safety-conscious manner


Besides the safety instructions specified in this operating manual, further safety rules apply and must be followed:

- Accident prevention regulations
- Safety and operating provisions
- Safety regulations on handling hazardous substances
- Environmental protection provisions
- Applicable standards and legislation.

2.5 Personal protective equipment

Depending on the type of work you are carrying out, you must use appropriate protective equipment. Read the Accident Prevention Regulations and the Safety Data Sheets to the dosing media find out what protective equipment you need.

As a minimum, the following protective equipment is recommended:

Personal protective equipment required	
	Protective mask
	Protective clothing
	Protective gloves
	Safety shoes

Tab. 3: Personal protective equipment required

Wear the following personal protective equipment when performing the following tasks:

- Commissioning
- All work on gas-bearing sections of the plant
- Changing the chlorine gas containers
- Shut-down
- Maintenance work
- Disposal

2.6 Personnel qualification

Any personnel who work on the product must have appropriate special knowledge and skills.

Anybody who works on the product must meet the conditions below:

- Attendance at all the training courses offered by the owner.
- Personal suitability for the respective activity.
- Sufficient qualification for the respective activity.
- Training into the handling of the device.
- Knowledge of safety equipment and the way this equipment functions.
- Knowledge of this operating manual, particularly of safety instructions and sections relevant for the activity.
- Knowledge of fundamental regulations regarding health and safety and accident prevention.

All persons must generally have the following minimum qualification:

- Training as specialists to carry out work on the product unsupervised.
- Sufficient training that they can work on the product under the supervision and guidance of a trained specialist.

These operating instructions differentiate between these user groups:

2.6.1 Specialist staff

Thanks to their professional training, knowledge, experience and knowledge of the relevant specifications, specialist staff are able to perform the job allocated to them and recognise and/or eliminate any possible dangers by themselves.

2.6.2 Trained electricians

Due to their professional training, knowledge and experience as well as knowledge of specific standards and provisions, trained electricians are able to do the electrical work assigned to them and to recognise and avoid any potential dangers by themselves. They are specially trained for their specific working environment and are familiar with relevant standards and provisions. They must comply with the legally binding regulations on accident prevention.

2.6.3 Trained persons

Trained persons have received training from the operator about the tasks they are to perform and about the dangers stemming from improper behaviour. Trained persons have attended all trainings offered by the operator. In the table below you can check what qualifications are the pre-condition for the respective tasks. Only people with appropriate qualifications are allowed to perform these tasks.

Qualification	Activities
Specialist staff	<ul style="list-style-type: none"> ■ Assembly ■ Hydraulic installations ■ Electrical installation ■ Maintenance ■ Repairs ■ Commissioning ■ Taking out of operation ■ Disposal ■ Fault rectification
Trained electricians	<ul style="list-style-type: none"> ■ Electrical installation of heating sleeve
Trained persons	<ul style="list-style-type: none"> ■ Storage ■ Transportation ■ Control ■ Fault rectification

Tab. 4: Personnel qualification

3 Intended use

3.1 Notes on product warranty

Any non-designated use of the product can compromise its function or intended protection. This leads to invalidation of any warranty claims!

Please note that liability is on the side of the user in the following cases:

- The product is operated in a manner which is not consistent with this operating manual, particularly the safety instructions, handling instructions and the section "Intended use".
- if people operate the product who are not adequately qualified to carry out their respective activities.
- no original spare parts or accessories of Lutz-Jesco GmbH are used.
- Unauthorised changes are made to the product by the user.
- The user uses different dosing media than those indicated in the order.
- The user does not use dosing media under the conditions agreed with the manufacturer such as modified concentration, density, temperature, contamination, etc.
- Maintenance and inspection intervals are not adhered to as required or not adhered to at all.
- The product is commissioned before it or the corresponding system has been correctly and completely installed.
- Safety equipment has been bridged, removed or made inoperative in any other way.

3.2 Intended purpose

Chlorinators are suited for gaseous chlorine, however they must be protected against ingress of liquid chlorine. Liquid chlorine may cause major contamination in and to some extent also damage to the devices. Vacuum regulators are particularly affected hereof.

Catchpots are vertically positioned containers where liquid chlorine is collected. Liquid chlorine in the container slowly evaporates by the energy in the atmosphere or by means of a heating collar which heats up the catchpot. In doing so, catchpots effectively protect chlorinators from damage caused by liquid chlorine.

Liquid chlorine is generated in chlorinators as follows:

- Liquid chlorine generated by the condensation of chlorine gas: Condensation occurs at any place in the pressure system which is colder than the chlorine tank. These situations occur, for example, due to extreme temperature variations during day and night. Chlorine barrel or chlorine cylinders have a large mass which cools down more slowly than pipes and devices during the night.
- Liquid chlorine when connecting a new barrel: Chlorine barrels have two valves for chlorine discharge. Bent pipes are connected inside the barrel. Therefore, the upper valve discharges gaseous chlorine from the barrel filled with liquid chlorine. After the transportation of the chlorine barrel, this pipe is filled with liquid chlorine; therefore when

opening the gas valve, up to 100 cm³ of liquid chlorine escape from the valve.

For this purpose, it is useful to apply a catchpot in order to protect the dosing devices.

3.3 Predictable error messages

- Liquid chlorine gas may be generated by incorrect installation. A constantly rising pipe from the tank to the dosing device is very important for drops of liquid chlorine to flow back into the tank. However, this is sometimes not possible due to the local conditions, or the drops are carried away by the high flow velocity of chlorine gas. In this case, liquid chlorine is continuously produced. However, the catchpot is only suited for the collection of periodically produced smaller amounts of liquid chlorine. Therefore, a pressure reducing valve must be used in this case instead of a catchpot.
- The device is only intended for the applications described in chapter 3.2 "Intended purpose" on page 8.
- Comply with the information regarding the operating and environmental conditions (see chapter 4.3 "Technical data" on page 9).
- The device is not intended for outdoor use.
- The device must not be operated if protective equipment has been removed or has not been properly installed or is not fully functional.

4 Product description

4.1 Scope of delivery

Carefully check the delivery prior to installation and refer to the delivery note to ensure the delivery is complete and to check for any transport damage. Contact the supplier and/or carrier regarding any questions concerning the delivery and/or transport damage. Do not operate defective devices. The product is assembled ready-to-install. All the flange openings are closed by transportation locks. The heating collar is an optional accessory and is separately ordered and supplied.

4.1.1 Catchpot for barrel assembly

The version for barrel assembly includes the following scope of delivery:

- Catchpot for barrel assembly
- Connection seals
- Distance piece
- Operating instructions

4.1.2 Catchpot for wall mounting

The version for wall mounting includes the following scope of delivery:

- Catchpot for wall mounting
- Assembly accessories (wall holder, screws, nuts, washers, connection seals),
- Operating instructions

4.2 Structure of the device

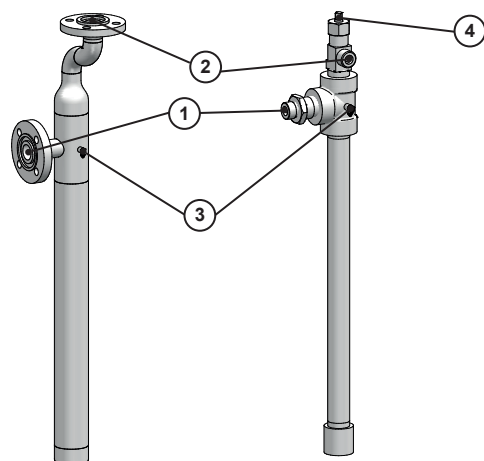


Fig. 1: Structure of the device

No.	Position
1	Input
2	Output
3	Screw for the connection of the ground loop of the heating collar
4	Spindle for shutting off the catchpot

Tab. 5: Pos. numbers structure of the device

4.2.1 Rating plate

The rating plate contains information on the safety and functional method of the product. The rating plate must be kept legible for the duration of the service life of the product.

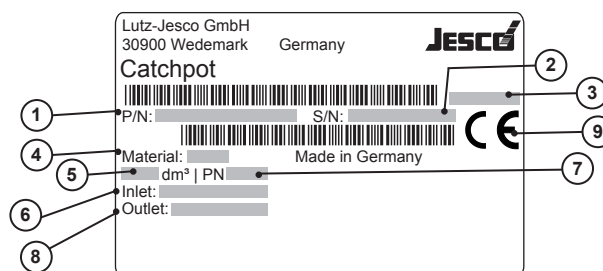


Fig. 2: Rating plate catchpot

No.	Position
1	Part number
2	Serial number
3	Month/year of manufacture
4	Material
5	Capacity in dm³
6	Input type
7	Nominal pressure
8	Output type
9	Symbol of conformity with the applicable European directives (only for catchpots with a capacity of 1000 ml)

Tab. 6: Pos. numbers rating plate catchpot

4.3 Technical data

Description	Value						
Nominal pressure	PN25						
Weight	<table border="1"> <tr> <td>125 ml</td><td>approx. 3 kg</td></tr> <tr> <td>250 ml</td><td>approx. 3 kg (+ approx. 1 kg per flange)</td></tr> <tr> <td>1000 ml</td><td>approx. 8 kg</td></tr> </table>	125 ml	approx. 3 kg	250 ml	approx. 3 kg (+ approx. 1 kg per flange)	1000 ml	approx. 8 kg
125 ml	approx. 3 kg						
250 ml	approx. 3 kg (+ approx. 1 kg per flange)						
1000 ml	approx. 8 kg						
Max. operating temperature	50 °C						
Connection of pipework	see 5.1 "Catchpot for barrel assembly" on page 10						
Materials (only for devices with a volume of 125 ml and 1000 ml)	Carbon steel, Bronze, Monel, PTFE						

Tab. 7: Technical data

5 Dimensions

All dimensions in mm

5.1 Catchpot for barrel assembly

Device for barrel mounting with yoke connection suitable for 90° barrel valves with outlet (to right or left) BSP 5/8 to BS 341, BSP 3/4 to AS 2473, 1.030"-14 NGO RH to CGA V-1 (820).

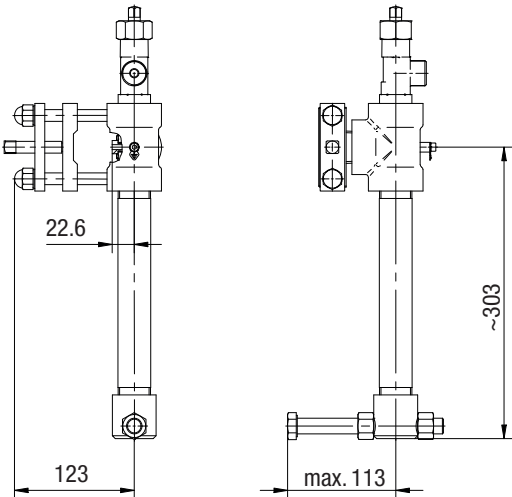


Fig. 3: Device for drum fitting with yoke connection

Output suitable for devices with union nut BSP 5/8 to BS 341 and for devices with YOKE connection to CGA V-1 (820)

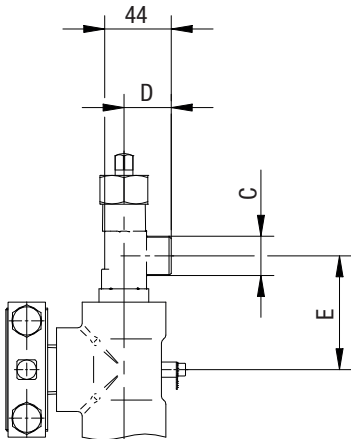


Fig. 4: Output for device with yoke connection

Device for barrel assembly with union nut suitable for barrel valves with straight output.

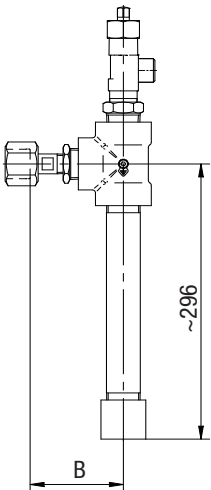


Fig. 5: Device for drum fitting with union nut

Output with threaded pin suitable for devices with union nuts BSP 3/4 to AS 2473, BSW 1" to DIN 477, 1.030"-14 NGO RH to CGA V-1 (660)

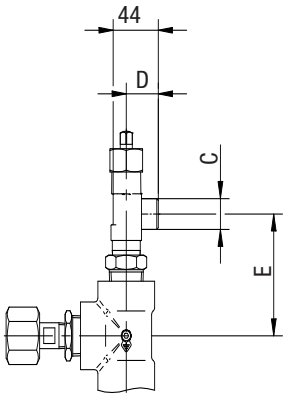


Fig. 6: Output for device with union nut

Volume	Input			Output			
		Figure	Dim. B	Dim. C	Figure	Dim. D	Dim. E
125 ml (1 barrel)	Yoke connection	Fig. 3	-	BSP 5/8	Fig. 4	32	76
				BSP 3/4			
				BSW 1"			
				1.030"-14 NGO			
	Union nut BSW 1 1/4"	Fig. 5	94	BSW 1"	Fig. 6		101

Tab. 8: Dimensions of catchpots for barrel assembly

5.2 Catchpot for wall mounting

Figures 7 – 12 show the device with input from the left side.

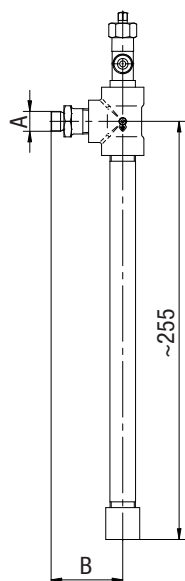


Fig. 7: Input with threaded pin

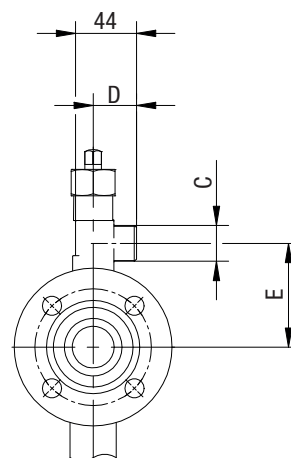


Fig. 9: Output with threaded pin

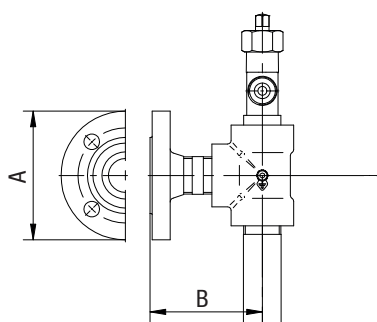


Fig. 8: Input with flange
Flange DN25/PN40 with groove according to EN 1092 shape D

Volume	Input			Output			
	Dim. A	Figure	Dim. B	Dim. C	Figure	Dim. D	Dim. E
250 ml (2 barrels)	BSP 5/8 1,030"-14 NGO	Fig. 7	95	BSP 5/8	Fig. 9	32	76
				BSP 3/4			
				BSW 1"			
				1.030"-14 NGO			
	flange with groove	Fig. 8	100	BSP 5/8			
				BSP 3/4			
				BSW 1"			
				1.030"-14 NGO			

Tab. 9: Dimensions of catchpots for wall mounting

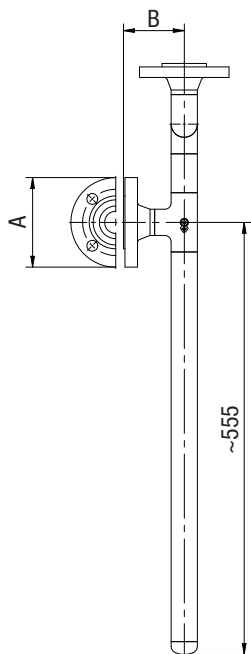


Fig. 10: Input with flange
Flange DN25/PN40 with groove according to EN 1092 shape D

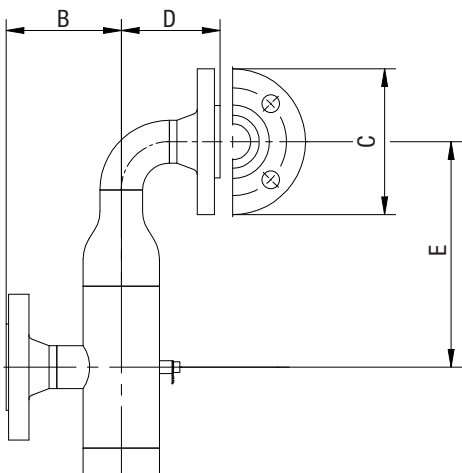


Fig. 11: Output with lateral flange
Flange DN25/PN40 with spring according to EN 1092 shape C

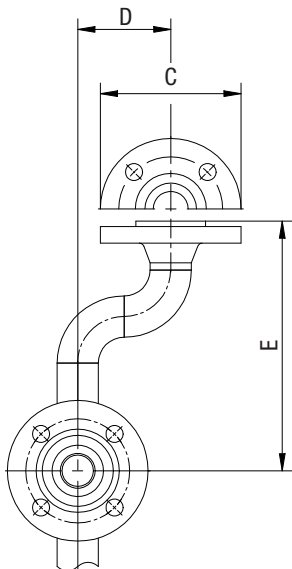


Fig. 12: Output with flange facing upwards
Flange DN25/PN40 with spring according to EN 1092 shape C

Volume	Input			Output			
	Dim. A	Figure	Dim. B	Dim. C	Figure	Dim. D	Dim. E
1000 ml (8 barrels)	flange with groove	Fig. 10	78	flange with tongue	Fig. 11	76	204
			91				256
					Fig. 12	78	178

Tab. 10: Dimensions of catchpots for wall mounting

6 Installation



WARNING

Danger of personal injury and material damage!

The device is very heavy. If the device is not fixed adequately, there is a danger of injury due to pipes bursting. During operation, this can also lead to chlorine gas escaping.

⇒ Make sure that the device is adequately fixed in the pipe.

6.1 Installation location

The catchpot is installed directly upstream of the vacuum regulator. For devices of up to 10 kg/h this might be directly at the barrel. Larger systems must be mounted to the wall.

6.2 Installing the device

6.2.1 Installing the flange connections

Pre-conditions for actions:

- ✓ The flanges are free from temporary coatings, e.g. to protect from corrosion.
- ✓ The sealing surfaces are free of contamination and damage.
- ✓ Bolts, nuts and washers are clean and undamaged. In this connection, pay particular attention to the thread and the supporting surfaces.
- ✓ Seals must be clean, undamaged and dry. You are not allowed to use adhesive paste and fitting lubricant.



Any bolts, nuts and washers that are removed during installation must be replaced with new ones. Used bolts, nuts and washers may only be installed if they are in at least new condition.

Perform the following working steps:

1. Before tightening, lubricate the sliding surfaces of the bolts, nuts and washers with suitable lubricants.
 2. To make the connection to the chlorine gas line, inflow and outflow flanges with tongues and grooves are welded on the device. These flanges are connected to the corresponding counterflanges of the chlorine gas line.
 3. Insert dry seals into the groove of the flange.
 4. Tighten the bolts evenly crosswise in three stages: 20 Nm, 35 Nm and 50 Nm.
 5. Retighten all the bolts to the full target tightening torque (50 Nm).
 6. Setting the seal (adapting to the flange seal surface) can make it necessary to retighten the bolts. This means that you should retighten the bolts again after a few hours with the flange connection depressurized.
- ✓ **Device is installed.**

6.2.2 Installing the yoke connection



The output of the barrel valve for the discharge of gaseous chlorine points to the right in most of the cases. Therefore, the catchpot for barrel assembly is supplied with input from the left side. If the barrel valve is open towards the left side, the catchpot can be installed inversely. To this end, you must swap the centring pin (2) and the plug (1) and install the clamping yoke (3) at the right side.

Pre-conditions for actions:

- ✓ The protective elements at the catchpot and the barrel valve are removed.
- ✓ The sealing surfaces are free of contamination and damage.
- ✓ Seals must be clean, undamaged and dry. You are not allowed to use adhesive paste and fitting lubricant.

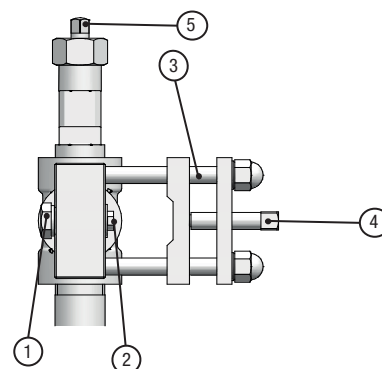


Fig. 13: Catchpot with yoke connection.

Perform the following working steps:

1. Fit a new seal on the centring pin (2) at the input of the catchpot.
2. Hold the catchpot to the barrel valve and tighten the clamping screw (4) by hand.
3. Adjust the distance piece such that the catchpot is in an upright position.
4. Carefully tighten the clamping screw (4) with an AF 13 open-end spanner. The tightening torque is approx. 12 Nm. If leakage is detected after the leak test, the screw may be retightened by max. 20 Nm.
5. Install the consumer according to the appropriate operating manual.

✓ **Device is installed.**

6.2.3 Installing the connection with union nut

Pre-conditions for actions:

- ✓ The protective elements at the catchpot and the barrel valve are removed.
- ✓ The sealing surfaces are free of contamination and damage.
- ✓ The thread of the union nut and the cylinder valve are clean and smoothly running.

- ✓ Seals must be clean, undamaged and dry. You are not allowed to use adhesive paste and fitting lubricant.

Perform the following working steps:

1. Fit a new seal on the centring pin (2) at the input of the catchpot.
2. Hold the catchpot to the barrel valve and tighten the union nut by hand.
3. Adjust the catchpot in upright position.
4. Tighten the union nut with an AF 32 or AF 41 open-end spanner. Secure the device against distortion using an open-end spanner. Tightening torque for AF 32: approx. 20 Nm, retightening with max. 30 Nm; Tightening torque for AF 41: approx. 30 Nm, retightening with max. 45 Nm
5. Install the consumer according to the appropriate operating manual.

- ✓ **Device is installed.**

6.3 Installing the heating collar




Installation instructions are provided in the operating manual of the heating collar.

6.4 Completing the installation

After completing installation, you must check that all the connections are leak-proof (see 7.1.1 "Inspecting the pressure system" on page 15).

7 Operation

7.1 Commissioning



DANGER!

Chlorine gas can escape due to systems that are leaky or not installed correctly!

There is an increased safety risk due to chlorinators that are commissioned without having previously been inspected for adequate tightness and correct installation as well as for all components being in the proper condition.


- ⇒ Before commissioning the system, have an expert inspect that it is tight and in the proper condition.
- ⇒ The condition of the installation must be checked for adequate tightness on a regular basis.

7.1.1 Inspecting the pressure system

The pressure system is checked for tightness in two work steps:

- Leak test with nitrogen
- Leak test with chlorine

7.1.1.1 Carrying out the leak test with nitrogen



You are strongly recommended to carry out this inspection before carrying out the leak test with chlorine, since it shows leaks in the pressure system without the risk of chlorine escaping. As an alternative, you can carry out the inspection using dry compressed air.

Leak tests with nitrogen or compressed air cannot be carried out with catchpots for barrel assembly.

Pre-conditions for actions:

- ✓ All the open connections of the overpressure installation were closed.
- ✓ All the shut-off valves in the pipe system were opened.
- ✓ A nitrogen cylinder with a pressure reducer (0 – 10 bar) has been connected.


Perform the following working steps:

1. Slowly raise the system pressure at the nitrogen cylinder's pressure reducer to 10 bar.
2. Close the nitrogen cylinder's valve.
3. Apply soap solution to all the potential leaks. Bubbles will appear at leak locations.

4. Close the outlet on the nitrogen cylinder's pressure reducer and observe the pressure gauge in the installation. The pressure must not drop within one hour.
5. If necessary, repair leaks and repeat the leak test.

✓ **Leak test with nitrogen carried out.**

7.1.1.2 Carrying out the leak test with chlorine



DANGER!

Danger to life from chlorine poisoning!

If you start the leak test with chlorine before the entire plant has been installed and the injectors are ready for operation, chlorine may not be extracted immediately in the case of a leak.

- ⇒ Make sure that all the components in the plant are installed correctly and the injectors are ready for operation before starting the leak test with chlorine.
- ⇒ Put on protective clothing before carrying out the leak test.



You must get rid of even very minor leaks without delay. Together with the humidity, chlorine forms hydrochloric acid and corrosion results in increased leakage.

Pre-conditions for actions:

- ✓ Leak test with nitrogen carried out successfully (except for catchpots for barrel assembly).
- ✓ All the open connections of the pressure system were closed correctly.
- ✓ A chlorine container was connected.

Perform the following working steps:

1. Briefly open the chlorine container valve and close it again.
2. Carry out the ammonia test on the entire pressure system: Ammonia steam with chlorine forms a white vapour and makes even very small leaks visible. With the ammonia test, you hold an open bottle containing the ammonia solution close to the pipe and make a slight pumping motion with the plastic bottle.



PLEASE NOTE

Damage to the plant by the ammonia solution

If the ammonia solution comes into contact with the plant, this leads to corrosion on the equipment.

⇒ Make sure that you do not spill any ammonia.

3. If you find leaks: Use the injector to suck off the chlorine immediately!

4. After this, repair the leak.
5. Carry out the leak test again.
6. If you do not find any leaks: Briefly open the chlorine container valve and leave it open.
7. Carry out the ammonia test again.

✓ **Leak test with chlorine carried out.**

7.2 Test intervals

You must check the components of the chlorinator for leaks on a daily basis and after maintenance or commissioning work.

7.3 Shut-down

7.3.1 Short-term shut-down

Perform the following working steps:

1. Close the chlorine gas container valves.
2. Use the injector to suck off the remaining chlorine.
3. Switch off the injector.

✓ **Chlorinator shut down for the short term.**

7.3.2 Long-term shut-down

Pre-conditions for actions:

- ✓ The chlorine gas container valves were closed.
- ✓ The remaining chlorine was sucked off using the injector.
- ✓ The injector is ready for operation.
- ✓ A nitrogen cylinder with a pressure reducer (0 – 10 bar) has been connected.

Perform the following working steps:

1. Run the chlorinator for approximately five minutes with nitrogen.
2. Close all the connections to protect the lines and devices from humidity and dirt.

✓ **Chlorinator shut down for the long term.**

7.4 Troubleshooting

Problem	Possible cause	Remedy
Leaking connection	The seal is not correctly positioned.	Insert a new seal and make sure that it is correctly positioned.
	The seal is defective.	Insert a new seal.
	The sealing surfaces are not clean.	Clean them and fit them with a new seal.
	Damage to the sealing surface.	Replace the part, if possible. Otherwise, the device cannot be used anymore.
Damage to downstream devices caused by liquid chlorine.	The capacity of the catchpot is too low for the application, e.g. too many chlorine barrels.	Install a suitable catchpot.
	Not the upper valve (gaseous discharge) but the lower valve (liquid discharge) was used for the chlorine barrels.	Correctly connect the chlorine barrels.
	During cold times of the day, more chlorine is condensed than the catchpot can collect.	Mounting the heating sleeve.
		Modify the incline of the pipes such that liquid chlorine can flow back into the barrel.
		Mount the pressure reducing valve.


Tab. 11: Troubleshooting

7.5 Disposal of old equipment

- Before disposing of the old equipment, you must clean off the remaining chlorine by rinsing it with nitrogen or air.
- Any residual dosing media must be removed in a professional manner.
- The device must be disposed of in accordance with applicable local laws and regulations. It should not be disposed of as domestic waste!

As the disposal regulations may differ from country to country, please consult your supplier if necessary. In Germany, the manufacturer must provide free-of-charge disposal provided the device has been safely returned along with a declaration of no objection (see chapter 11 "Declaration of no objection" on page 20).

8 Maintenance




DANGER!

Danger to life from chlorine poisoning!

Do not carry out maintenance or any other work on the chlorinator until the system has been decommissioned and all of the chlorine gas has been removed from the lines. Otherwise, chlorine gas may escape.

- ⇒ Close the chlorine container valves before carrying out any work.
- ⇒ Use the injector to suck out all the chlorine-bearing pipes.



WARNING

Increased risk of accidents due to insufficient qualification of personnel!

Chlorinators and their accessories must only be installed, operated and maintained by personnel with sufficient qualifications. Insufficient qualification will increase the risk of accidents.

- ⇒ Ensure that all action is taken only by personnel with sufficient and corresponding qualifications.
- ⇒ Prevent access to the system for unauthorised persons.

- In order to avoid hazardous incidents, chlorinators must be maintained and tested at least once a year.
- In some cases, regional regulations may require shorter maintenance intervals. Working on the system requires special safety precautions and may only be carried out by instructed technical personnel.
- Carry out maintenance before recommissioning the system after a long period out of service.

8.1 Device maintenance

Perform the following working steps:

1. Check the sealing surfaces for leakages.
2. Renew all connecting seals.
3. Carry out the leak test.
4. Check the heating collar for correct function, if necessary.

✓ **Device is maintained.**

8.2 Spare parts

The following spare parts are available for maintenance:

8.2.1 Connection seals at the input

Connection types:

- Threaded pin BSP 5/8
- Union nut BSW 1"
- Union nut BSW 1 1/4"
- Threaded pin 1.030"-14NGO
- Flange DN25/PN40 with groove/tongue

8.2.2 Connection seals at the output

Connection types:

- Threaded pin BSP 5/8
- Threaded pin BSP 3/4
- Threaded pin BSW 1"
- Threaded pin 1.030"-14NGO
- Flange DN25/PN40 with groove/tongue

8.2.3 Spare parts for flange connections

Assembly accessories for flanges:

Screws, nuts, washers, gaskets
(suitable for Flange DN25/PN40 with groove/tongue)

9 Notes to EU conformity

(for devices with a capacity of 125 ml – 250 ml)

The devices fall under the purview of the pressure equipment directive 2014/68/EU.

The values stated below do not exceed the limit values in according to article 4, paragraph 1. Therefore, it is designed and manufactured in accordance with valid good engineering practice This pressure devices may not carry a CE marking and an EU declaration of conformity will not be issued.

Designation of the device:	Catchpot
Type:	DN25 PN25 (for barrel mouting, for wall mounting)
Volume:	125 ml / 250 ml
Medium:	Chlorine, fluid group 1

The devices fulfil all the demands made by the directive(s):

2014/68/EU Pressure equipment directive

10 EU Declaration of Conformity

(for devices with a capacity of 1000 ml)



(DE) EU-Konformitätserklärung

Hiermit erklären wir, dass das nachfolgend bezeichnete Gerät aufgrund seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der aufgeführten EU-Richtlinien entspricht. Bei einer nicht mit uns abgestimmten Änderung am Gerät verliert diese Erklärung ihre Gültigkeit.

(EN) EU Declaration of Conformity

We hereby certify that the device described in the following complies with the relevant fundamental safety and sanitary requirements and the listed EU regulations due to the concept and design of the version sold by us.

If the device is modified without our consent, this declaration loses its validity.

(FR) Déclaration de conformité UE

Nous déclarons sous notre propre responsabilité que le produit ci-dessous mentionné répond aux exigences essentielles de sécurité et de santé des directives UE énumérées aussi bien sur le plan de sa conception et de son type de construction que du modèle que nous avons mis en circulation.

Cette déclaration perdra sa validité en cas d'une modification effectuée sur le produit sans notre accord explicite.

(ES) Declaración de conformidad UE

Por la presente declaramos que, dados la concepción y los aspectos constructivos del modelo puesto por nosotros en circulación, el aparato mencionado a continuación cumple con los requisitos sanitarios y de seguridad vigentes de las directivas de la U.E. citadas a continuación.

Esta declaración será invalida por cambios en el aparato realizados sin nuestro consentimiento.

(PT) Declaração de conformidade UE

Declaramos pelo presente documento que o equipamento a seguir descrito, devido à sua concepção e ao tipo de construção daí resultante, bem como a versão por nós lançada no mercado, cumpre as exigências básicas aplicáveis de segurança e de saúde das directivas CE indicadas.

A presente declaração perde a sua validade em caso de alteração ao equipamento não autorizada por nós.

Bezeichnung des Gerätes:

Tropfenabscheider

Description of the unit:

Catchpot

Désignation du matériel:

Séparateur de gouttes

Descripción de la mercancía:

Colector de gotas

Designação do aparelho:

Separador de gotas

Typ:

DN25 PN25 (für Fassmontage, für Wandmontage)

Type:

DN25 PN25 (for barrel mounting, for wall mounting)

EU-Richtlinien:

Druckgeräterichtlinie 2014/68/EU

EU directives:

Pressure Equipment Directive 2014/68/EU

Harmonisierte Normen:

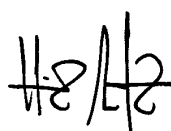
DIN EN 1092-1, DIN EN 10216-2, DIN EN 10253-2

Harmonized standards:

Dokumentationsbevollmächtigter:

Lutz-Jesco GmbH

Authorized person for documentation:



Heinz Lutz
Geschäftsführer / Chief Executive Officer
Lutz-Jesco GmbH
Wedemark, 12.03.2020

Lutz-Jesco GmbH
Am Bostelberge 19
30900 Wedemark
Germany

11 Declaration of no objection

In the event of a repair, copy the declaration of no objection and complete it separately for each device. Enclose one copy to the device you are sending. Please send the declaration of no objection to us also in advance per fax or e-mail!

Declaration of no objection

Please fill out a separate form for each appliance!

We forward the following device for repairs:

Device and device type: Part-no.:

Order No.: Date of delivery:

Reason for repair:

.....

.....

Dosing medium

Description: Irritating: ☐ Yes ☐ No

Properties: Corrosive: ☐ Yes ☐ No

We hereby certify, that the product has been cleaned thoroughly inside and outside before returning, that it is free from hazardous material (i.e. chemical, biological, toxic, flammable, and radioactive material) and that the lubricant has been drained.

If the manufacturer finds it necessary to carry out further cleaning work, we accept the charge will be made to us.

We assure that the aforementioned information is correct and complete and that the unit is dispatched according to the legal requirements.

Company / address: Phone:

..... Fax:

..... Email:

Customer No.: Contact person:

Date, Signature:

12 Warranty claim

In the event of a repair, copy the warranty claim and complete it separately for each device. Enclose one copy to the device you are sending. Please send the warranty claim to us also in advance per fax or e-mail!

Warranty claim

Please copy and send it back with the unit!

If the device breaks down within the period of warranty, please return it in a cleaned condition with the complete warranty claim.

Sender

Company: Phone: Date:

Address:

Contact person:

Manufacturer order no.: Date of delivery:

Device type: Serial number:

Nominal capacity / nominal pressure:

Description of fault:

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Service conditions of the device

Point of use / system designation:

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Accessories used (suction line etc.):

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Commissioning (date):

Duty period (approx. operating hours):

Please describe the specific installation and enclose a simple drawing or picture of the chemical feed system, showing materials of construction, diameters, lengths and heights of suction and discharge lines.

13 Index

E
EC Declaration of Conformity 18

G
General warnings 5

H
Handling instructions
 Marking 4
Hazards due to non-compliance with the safety instructions 5

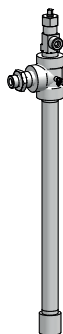
I
Intended use 8

N
Notes for the Reader 4

P
Personnel qualification 6

S
Safety 5
Signal words
 Explanation 4
Specialist staff 6

W
Warnings
 General warnings 5
 Marking 4
Warning sign
 Explanation 4
Working in a safety-conscious manner 6



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Operating instructions
Catchpot