Chlorine Neutralisation Device
LJ Neutra 200/500
Operating Manual

Read the operating instructions!
The user is responsible for installation and operation related mistakes!
# Contents

1 Notes for the Reader .......................................................................................................................... 4  
   General non-discrimination .............................................................................................................. 4  
   Explanation of the signal words ....................................................................................................... 4  
   Explanation of the warning signs ..................................................................................................... 4  
   Identification of warnings ................................................................................................................. 4  
   Instruction for action identification .................................................................................................. 4  

2 Safety ................................................................................................................................................. 5  
   General warnings .............................................................................................................................. 5  
   Information about chlorine ................................................................................................................. 5  
   Hazards due to non-compliance with the safety instructions ........................................................... 5  
   Working in a safety-conscious manner .............................................................................................. 5  
   Personal protective equipment ........................................................................................................ 5  
   Personnel qualification ...................................................................................................................... 6  

3 Intended Use ....................................................................................................................................... 7  
   Notes on product warranty .............................................................................................................. 7  
   Intended purpose .............................................................................................................................. 7  

4 Product description ............................................................................................................................ 8  
   Scope of delivery ............................................................................................................................... 8  
   Function ............................................................................................................................................ 8  
   Technical data ................................................................................................................................... 8  
   Accessories ....................................................................................................................................... 8  
   Spare parts ....................................................................................................................................... 8  

5 Dimensions ....................................................................................................................................... 9  
   Tank with hand stirrer and connections ............................................................................................ 9  
   Jet pump .......................................................................................................................................... 10  

6 Installation ....................................................................................................................................... 11  
   Installation example ......................................................................................................................... 11  

7 Operation ....................................................................................................................................... 12  
   Adding neutralisation solution ......................................................................................................... 12  
   Maintenance .................................................................................................................................... 12  

8 Declaration of Harmlessness ............................................................................................................. 13  

9 Warranty claim ................................................................................................................................. 14  

10 EC Declaration of Incorporation ..................................................................................................... 15
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 starting-up 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 these operating instructions, 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:

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>Refers to imminent danger. Ignoring this sign may lead to death or the most serious injuries.</td>
</tr>
<tr>
<td>WARNING</td>
<td>Refers to a potentially hazardous situation. Failure to follow this instruction may lead to death or severe injuries.</td>
</tr>
<tr>
<td>CAUTION</td>
<td>Refers to a potentially hazardous situation. Failure to follow this instruction may lead to minor injury or damage to property.</td>
</tr>
<tr>
<td>NOTICE</td>
<td>Refers to a danger which, if ignored, may lead to risk to the machine and its function.</td>
</tr>
</tbody>
</table>

1.3 Explanation of the warning signs

Warning signs represent the type and source of a danger:

<table>
<thead>
<tr>
<th>Warning sign</th>
<th>Type of danger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Danger to life from chlorine poisoning</td>
</tr>
<tr>
<td></td>
<td>General danger zone</td>
</tr>
<tr>
<td></td>
<td>Danger of damage to machine or functional influences</td>
</tr>
</tbody>
</table>

1.4 Identification of warnings

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

This is how warnings are identified:

<table>
<thead>
<tr>
<th>Warning sign</th>
<th>SIGNAL WORD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Description of danger.</td>
</tr>
<tr>
<td></td>
<td>Consequences if ignored.</td>
</tr>
<tr>
<td></td>
<td>☢ The arrow signals a safety precaution to be taken to eliminate the danger.</td>
</tr>
</tbody>
</table>

1.5 Instruction for action identification

This is how pre-conditions for action are identified:

- Pre-condition for action which must be met before taking action.

This is how instructions for action are identified:

- Separate step with no follow-up action.
- First step in a series of steps.
- 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.

2.2 Information about chlorine

Chlorine is a hazardous substance. The chemical element chlorine is a greenish-yellow, toxic gas with a pungent odour, which can be detected in the air at concentrations below 1 ppm (≈ 1 ml/m³). Chlorine 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 0.51% leads to a quick death in mammals and humans, as it attacks the respiratory tract and the pulmonary alveolus (formation of hydrogen chloride or hydrochloric 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 to persons,
- 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:

Mask  Protective clothing  Gloves  Safety footwear
Corresponding protective equipment must be used during these tasks:
- commissioning,
- all work on gas-bearing sections of the plant
- changing the chlorine gas containers,
- shutdown,
- 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 these user groups:

2.6.1 Specialist staff

Specialist staff are able, thanks to their professional training, knowledge and experience as well as knowledge of the respective provisions, to do the job allocated to them and recognise and/or eliminate any possible dangers by themselves.

2.6.2 Trained persons

Trained persons have been trained by the operator into the tasks they are supposed to perform and into the dangers stemming from improper behaviour.

Trained persons have attended all trainings offered by the operator.

2.6.3 Personnel tasks

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.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist staff</td>
<td>Assembly, Hydraulic installations, Commissioning, Taking out of operation, Maintenance, Repairs, Disposal, Fault rectification</td>
</tr>
<tr>
<td>Trained persons</td>
<td>Storage, Transportation, Control</td>
</tr>
</tbody>
</table>
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 these operating instructions, particularly safety instructions, handling instructions and chapter 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

The chlorine neutralisation device is intended for the following purpose only: supplying a sprinkler system with sodium thiosulphate for the purpose of neutralising the chlorine released by a chlorination system so that it can be safely drained off into the waste water.
# 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 scope of delivery includes:

- 200 litre PE tank
- Hand stirrer for mixing neutralisation agents and water
- Jet pump DN20 for evacuating the neutralisation agent from the storage tank
- 2 PVC ball valves DN15 for filling the tank with water and for closing the intake
- Operating manual

## 4.2 Function

The use of a sprinkler system to suppress escaping chlorine produces chlorine-containing waste water that must not be allowed to enter the drainage system. The neutralisation device supplies the sprinkler system with sodium thiosulphate (“antichlor”) and neutralises the chlorine. The waste water is then free of hazardous chlorine.

The jet pump is installed in the supply line of the spray nozzles. As soon as water flows into the spray nozzles, the jet pump evacuates neutralisation fluid from the storage tank and mixes it with the water spray.

## 4.3 Technical data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating water pressure</td>
<td>4 bar</td>
</tr>
<tr>
<td>Water requirement</td>
<td>approx. 2500 l/h</td>
</tr>
<tr>
<td>Priming volume flow</td>
<td>approx. 500 l/h</td>
</tr>
<tr>
<td>Recommended number of spray nozzles</td>
<td>2 pcs</td>
</tr>
<tr>
<td>Volume of the tank</td>
<td>200 l</td>
</tr>
<tr>
<td>Max. neutralisation quantity</td>
<td>approx. 100 kg chlorine</td>
</tr>
</tbody>
</table>

## 4.4 Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium thiosulphate pentahydrate, 25 kg bag</td>
<td>1735</td>
</tr>
<tr>
<td>Pressure reducer ¾” (without pressure gauge)</td>
<td>82027</td>
</tr>
<tr>
<td>Pressure gauge 0…10 bar for pressure reducer</td>
<td>87149</td>
</tr>
</tbody>
</table>

## 4.5 Spare parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet pump DN20</td>
<td>88595</td>
</tr>
<tr>
<td>Ball valve DN10 PVC/FPM</td>
<td>12400012</td>
</tr>
</tbody>
</table>
5 Dimensions

5.1 Tank with hand stirrer and connections

All dimensions in mm

Fig. 5-1: Dimensions – tank with hand stirrer and connections
5.2 Jet pump

![Diagram of jet pump dimensions]

Fig. 5-2: Dimensions – jet pump
6 Installation

**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.

6.1 Installation example

![Installation example diagram](image)

**Position** | **Description**
--- | ---
1 | Storage tank with hand stirrer
2 | Filler valve
3 | Valves for the sprinkler system
4 | Jet pump
5 | Shutoff valve
6 | Sprinkler system in the chlorine gas room
7 | Gas warning device
8 | Gas sensor
9 | Indicator lamp
10 | Horn
11 | Floor drain with odour trap

- Install the system as shown in the example installation.
- The connection between the sprinkler system and the storage tank is made without an immersion tube.
- The jet pump is connected to the storage tank at the connection with an immersion tube.
7 Operation

7.1 Adding neutralisation solution

Precondition for action:

✓ After it was installed, the system operated on a trial basis using water to ensure that it could be primed with fluid.
✓ The shutoff valve between the storage tank and jet pump is closed.
✓ The storage tank is empty or almost empty.

Perform the following working steps:

1. Add max. 100 kg sodium thiosulphate to the empty tank.
2. Fill the storage tank with water up to the 200 l marking.
   ▶ The salt dissolves slowly in water and the solution becomes very cold in the process. This process can take up to an hour depending on the temperature of the water.
3. Use the hand stirrer to accelerate the process.

✓ Neutralisation solution prepared

7.2 Maintenance

The components of the system are maintenance-free.

To keep the system in an operable condition, you should do the following on a regular basis:

- check the level status of the storage tank,
- stir the contents of the storage tank.

NOTICE

Operational disturbance due to blocked jet pump or blocked spray nozzles

Operating the sprinkler system if the salt in the storage tank is not fully dissolved can cause the jet pump to become blocked. This can impede operation of the sprinkler system.

⇒ Only operate the sprinkler system if the fluid is clear and there are no longer any crystals on the bottom of the storage tank.
⇒ Close the shutoff valve between the storage tank and the jet pump until the crystals have fully dissolved. This process can take up to an hour depending on the temperature of the water.
⇒ After using the system, flush the sprinkler system for several minutes without sodium thiosulphate. This prevents the formation of crystals as it dries, which could cause the jet pump or the spray nozzles to malfunction.

If you want to test the sprinkler system, we recommend closing the shutoff valve between the storage tank and jet pump to avoid wasting sodium thiosulphate. Then open the shutoff valve again.
8 Declaration of Harmlessness

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 Harmlessness

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: ........................................................................
9 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!

<table>
<thead>
<tr>
<th>Warranty Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please copy and send it back with the unit!</td>
</tr>
<tr>
<td>If the device breaks down within the period of warranty, please return it in a cleaned condition with the complete warranty application, filled out.</td>
</tr>
</tbody>
</table>

**Sender**

<table>
<thead>
<tr>
<th>Company:</th>
<th>Phone:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact person:</td>
<td>Date of delivery:</td>
<td></td>
</tr>
<tr>
<td>Manufacturer order no.:</td>
<td>Serial number:</td>
<td></td>
</tr>
<tr>
<td>Device type:</td>
<td>Nominal capacity / nominal pressure:</td>
<td></td>
</tr>
</tbody>
</table>

**Service conditions of the device**

<table>
<thead>
<tr>
<th>Point of use / system designation:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories used (suction line etc.):</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Commissioning (date):</td>
<td></td>
</tr>
<tr>
<td>Duty period (approx. operating hours):</td>
<td></td>
</tr>
</tbody>
</table>

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.
10 EC Declaration of Incorporation

(EN) Declaration of Incorporation according to EC directive 2006/42/EC on machinery (Annex II B)

Hereewith we declare, that the partly completed machinery described below is complying with all essential requirements of the Machinery Directive 2006/42/EC, as far as the scope of delivery allows. Additional we declare that the relevant technical documentation is compiled in accordance with part B of Annex VII. We commit to transmit, in response to a reasoned request by the market surveillance authorities, relevant documents on the partly completed machinery by our documentation department. The partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC on Machinery, where appropriate, and until the EC Declaration of Conformity according to Annex II A is issued.

(ES) Declaración de incorporación según la Directiva 2006/42/CE sobre máquinas (Anexo II B)

Por la presente declaramos que la siguiente máquina incompleta cumple con todas las disposiciones pertinentes de la Directiva 2006/42/CE de máquinas, siempre y cuando se permita el volumen de suministro. También declaramos que la documentación técnica descrita en el anexo VII parte B se ha elaborado conforme a la presente Directiva. Nos comprometemos a enviar los documentos de la máquina incompleta a las autoridades de vigilancia del mercado, a través de nuestro departamento de documentación en respuesta a una previa solicitud motivada. La máquina incompleta debe estar lista para ser puesta en servicio, cuando se constate que la máquina o la instalación en la cual se integra la máquina incompleta ha sido declarada conforme a la Directiva 2006/42/CE, y con la declaración CE de conformidad según el anexo II A.

(PT) Declaração de Construção de acordo com a Directiva-CE 2006/42/CE de máquinas (Anexo II B)

Esclarecemos por meio deste que a máquina incompleta descrita a seguir segue os requisitos da directiva de máquinas 2006/42/CE, contanto que sua utilização seja mantida dentro do escopo original. Esclarecemos ainda que a documentação técnica especial segue o disposto no Anexo VII Parte B da presente Directiva. Comprometemo-nos a cumprir com as exigências das autoridades de fiscalização que forem feitas a nosso departamento de documentação, e que em caso de qualquer dúvida relacionadas a questões de segurança, a máquina incompleta poderá ser colocada em operação, se necessário, desde que seja verificado que o sistema ou a máquina na qual a máquina incompleta será instalada foi montada, em conformidade com a directiva 2006/42/CE de máquinas e com a declaração de conformidade 2006/42/CE.
Metering pumps, accessories chlorine gas technology, measuring and control technology, centrifugal pumps, disinfection systems and plant engineering and construction

Products for swimming pool water disinfection based on brine-electrolysis, domestic water systems technology

Lutz-Jesco GmbH
Am Bostelberge 19 • D-30900 Wedemark
www.lutz-jesco.de

Tap and tank pumps, flow meters, double diaphragm pumps, centrifugal pumps

Lutz Pumpen GmbH
P.O. Box 1462 • D-97864 Wertheim
www.lutz-pumpen.de

Head office
Lutz-Jesco GmbH
Am Bostelberge 19
30900 Wedemark
Germany

Tel.: +49 5130 5802-0
Fax: +49 5130 580268
E-mail: info@lutz-jesco.com
Internet: www.lutz-jesco.de

Hungary
Lutz-Jesco Üzletág
Vasvár P. u. 9.
9024 Győr
Hungary

Tel.: +36 96 523046
Fax: +36 96 523047
E-mail: info@lutz-jesco.hu
Internet: www.lutz-jesco.hu

Austria
Lutz-Jesco GmbH
Aredstraße 7/2
2544 Leobersdorf
Austria

Tel.: +43 2256 62180
Fax: +43 2256 6218062
E-mail: info@lutz-jesco.at
Internet: www.lutz-jesco.at

Netherlands
Lutz-Jesco Nederland B.V.
Nijverheidstraat 14 C
2984 AH Ridderkerk
Netherlands

Tel.: +31 180 499460
Fax: +31 180 497516
E-mail: info@lutz-jesco.nl
Internet: www.lutz-jesco.nl

Great Britain
Lutz-Jesco (GB) Ltd.
Gateway Estate
West Midlands Freeport
Birmingham B26 3QD
Great Britain

Tel.: +44 121 782 2662
Fax: +44 121 782 2680
E-mail: info@lutz-jesco.co.uk
Internet: www.lutz-jesco.co.uk

USA
Lutz-JESCO America Corp.
55 Bermar Park
Rochester, N.Y. 14624
USA

Tel.: +1 585 426-0990
Fax: +1 585 426-4025
E-mail: mail@jescoamerica.com
Internet: www.jescoamerica.com

East Asia
Lutz-Jesco East Asia Sdn Bhd
6 Jalan Saudagar U1/16
Hicom Glenmarie Industrial Park
40150 Shah Alam' Selangor
Malaysia

Tel.: +603 55692322
Fax: +603 55691322
E-mail: info@lutz-jescoasia.com
Internet: www.lutz-jescoasia.com

Middle East
Lutz-Jesco Middle East FZE
P.O. Box 9614
SAF-Free Zone Center
Sharjah
UAE

Tel.: +971 6 5572205
Fax: +971 6 5572230
E-mail: info@jescome.com
Internet: www.jesco.com