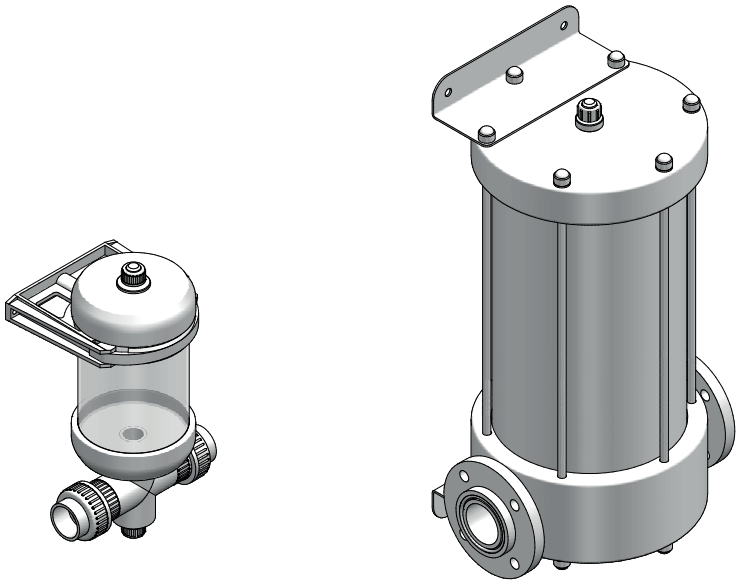
Suction pulsation dampener

Operating instructions



Read the operating manual!

The user is responsible for installation and operation related mistakes!

Original operating instructions

BA-12703-02-V02

Dosing | Liquids
Conveying | Gases
Control | Systems

Table of Contents

1 Notes for the Reader

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

Observe the following principles:

- Read the entire operating manual prior to starting-up the device.
- Ensure that everyone who works with or on the device has read the operating manual and follows it.
- Maintain the operating manual throughout the service life of the device.
- Pass the operating manual on to any subsequent owner of the device.

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 of personal injury and material damage
	Danger of caustic or other burns
	Danger of explosions
	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 Instruction for action identification

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 eliminate the dangers that can arise while handling the device. 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

Danger to life through explosions!

If using the suction pulsation dampener in areas with a risk of explosion, explosions can occur and cause heavy injuries and even death in the worst scenario.

⇨ Never use the Suction Pulsation Dampener in areas with a risk of explosion.

⇨ Do not use combustible media.

WARNING

Danger of injury through explosions!

The use of oxygen for building up the air cushion in the suction pulsation dampener can lead to explosions.

⇨ Use only air or nitrogen for building up the air cushion in the suction pulsation dampener.

WARNING

Danger of injury through explosions!

Where nitrogen is used for building up the air cushion in the suction pulsation dampener, it must be ensured that permitted pressure is not exceeded. Otherwise the unit can burst.

⇨ Set the pressure reduction valve on the oxygen cylinder maximum to 2 bar.

WARNING

Caustic burns or other burns through dosing media!

The materials of the suction pulsation dampener and of the hydraulic parts of the system must be suitable for the dosing medium used. Should this not be the case, the dosing media may leak.

⇨ Make sure that the materials you are using are suitable for the dosing medium.

WARNING

Caustic burns or other burns through dosing media

While working with the suction pulsation dampener, valves and connections, you may come into contact with dosing media.

⇨ Use sufficient personal protective equipment.

⇨ Wash the suction pulsation dampener with a fluid (e.g. water) which does not pose any risk. Ensure that the liquid is compatible with the dosing medium.

⇨ Release pressure in hydraulic parts.

⇨ Never look into open ends of plugged pipelines and valves.

CAUTION

Danger of personal injury and material damage

If maximum permitted pressure on the suction pulsation dampener is exceeded, the unit and the system can suffer damage.

⇨ Ensure that maximum permitted pressure is not exceeded.

⇨ Note that the temperature and type of the dosing medium you are using may change the maximum permitted pressure.

CAUTION

Danger of personal injury and material damage

The gas cushion in the suction pulsation dampener may react chemically with the dosing medium.

⇨ Use only air or nitrogen for building up the air cushion in the suction pulsation dampener.

⇨ Ensure that no undesired reactions with the dosing medium may occur if these substances are used.

CAUTION

Danger of personal injury and material damage

Dosing pumps and their accessories may 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.

2.2 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 vital functions of the suction pulsation dampener and the system
- Failure of required maintenance and repair methods
- Danger for individuals through dangerous dosing media
- Danger to the environment caused by substances leaking from the system

2.3 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 provisions for handling dangerous substances (mostly the safety data sheets to dosing media)
- Environmental protection provisions
- Applicable standards and legislation

2.4 Personal protective equipment

Based on the degree of risk posed by the dosing medium and the type of work you are carrying out, you must use corresponding 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 goggles
	Protective clothing
	Protective gloves

Tab. 3: Personal protective equipment required

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

- Commissioning
- Work on the suction pulsation dampener and dosing pump when running
- Shut-down
- Maintenance work
- Disposal

2.5 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 specialist to perform work on their own
- 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:

2.5.1 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.

2.5.2 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	■ Assembly ■ Hydraulic installations ■ Maintenance ■ Repairs ■ Commissioning ■ Taking out of operation ■ Disposal ■ Fault rectification
Trained persons	■ 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 suction pulsation dampener is operated in a manner which is not consistent with these operating instructions, particularly safety instructions, handling instructions and the section "Intended Use".
- no original spare parts or accessories of Lutz-Jesco GmbH are used.
- Unauthorised changes are made to the unit 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.

3.2 Principles

The suction pulsation dampener is intended for this purpose: Even supply of liquids into a piping system directed to a suction valve of a dosing pump.

Suction pulsation dampeners are not subject to EU Pressure equipment directive 2014/68/EU on pressure equipment.

Comply with the information regarding the operating and environmental conditions (see chapter 6 “Technical data” on page 12).

Any restrictions regarding the viscosity, temperature and density of dosing media must be followed.

The materials of the suction pulsation dampener and of the hydraulic parts of the system must be suitable for the dosing medium used.

Information on the suitability of materials combined with different dosing media can be found in the Compatibility Chart of Lutz-Jesco GmbH or requested directly from the manufacturer.

3.3 Prohibited operating conditions

- The suction pulsation dampener must not be installed in a pressurised pipe of a dosing pump.
- Maximum permitted operating pressure must not be exceeded.
- The suction pulsation dampener is not intended for outdoor use unless appropriate protective measures have been taken.
- Prevent leaks of liquids and dust into the casing and avoid direct exposure to sun light.
- The device must not be operated if protective equipment has been removed or has not been properly installed or is not fully functional.

3.4 Prohibited dosing media

The suction pulsation dampener must not be used for these media and substances:

- Gaseous media (except for the necessary gas cushion of air or nitrogen in suction pulsation dampener)
- Radioactive media
- Solid substances
- Combustible media

4 Product description

4.1 Scope of delivery

Please compare the delivery note with the scope of delivery. The following items are part of the scope of delivery:

- Suction pulsation dampener
- Two sealing plugs
- Mounting clip (1000 – 5000)
- Mounting angle (20000 – 40000)
- Operating instructions

4.2 Structure of suction pulsation dampener

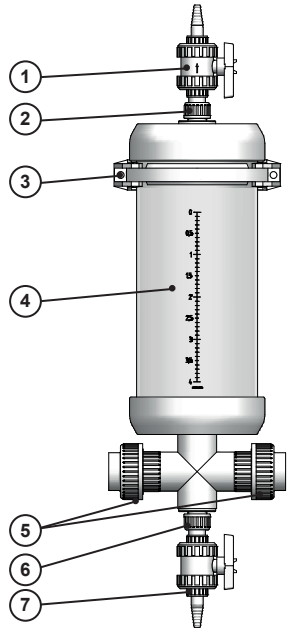


Fig. 1: Structure of suction pulsation dampener

No.	Description
1	Filler valve
2	Connection for refilling valve
3	Fastening screw
4	Volume scale (only for 1000 – 5000)
5	Pipeline connections
6	Connection for drain valve
7	Drain valve

Tab. 5: Design

4.3 Function description

Dosing pumps are oscillating displacement pumps which generate a pulsing flow thanks to their design. This pulsation may lead to pressure peaks depending on the pipeline length (the pulsation strength increases with rising pipeline length), the pipeline diameter and dosing medium density. Through these pressure peaks, the equipment pipelines can be overstressed and may even break in the worst scenario.

Pulsation dampeners are used to prevent this stress. Also certain processes which required dosing with small pulsation benefit from the use of pulsation dampeners.

The suction pulsation dampener is installed on the suction side of the dosing pump. It ensures dampening of acceleration mass forces (mostly in systems with high inflow of dosing medium) and hence efficiently reduces dosing pump wear.

The suction pulsation dampener ensures even supply of the dosing medium and prevents dosing interruptions caused by the pull-off of the liquid column due to high acceleration.

A gas cushion of air/nitrogen is present in the suction pulsation dampener. After activation, this gas cushion is compressed to the volume to be dampened.

The dampening of pulsation is achieved as a portion of the dosing medium is intercepted by the gas cushion during rising pressure and sent back to the pipeline network when pressure drops.

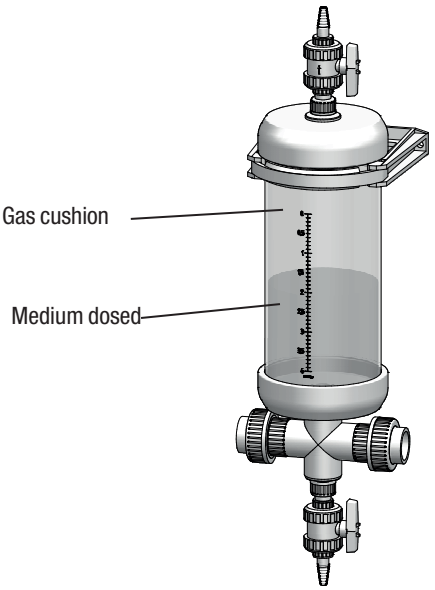


Fig. 2: Function description

4.4 Rating plate

The nameplate shows information on the safety and functional method of the suction pulsation dampener. The rating plate must be kept legible for the duration of the service life of the product.

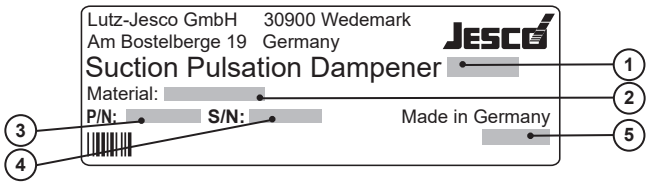


Fig. 3: Rating plate Suction pulsation dampener

No.	Description
1	Product, nominal size
2	Components coming into contact with the media
3	Part number
4	Serial number
5	Month/year of manufacture

Tab. 6: Rating plate

4.5 Accessories

4.5.1 Manual vacuum pump

Fig. 4: Manual vacuum pump

- Priming aid for suction pulsation dampener
- PVC material
- Hose nozzle Ø8 – Ø16
- Seals: FPM or EPDM
- A check valve prevents back streams of extracted air

4.5.2 Drain and refilling valves

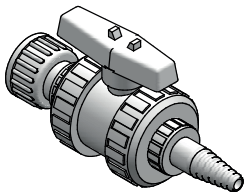


Fig. 5: Drain and refilling valves

- For connection to sealing plug of the suction pulsation dampener
- PVC material
- DN10
- Hose nozzle Ø8 – Ø16

5 Dimensions

All dimensions in mm

5.1 Suction pulsation dampener 1000 – 5000

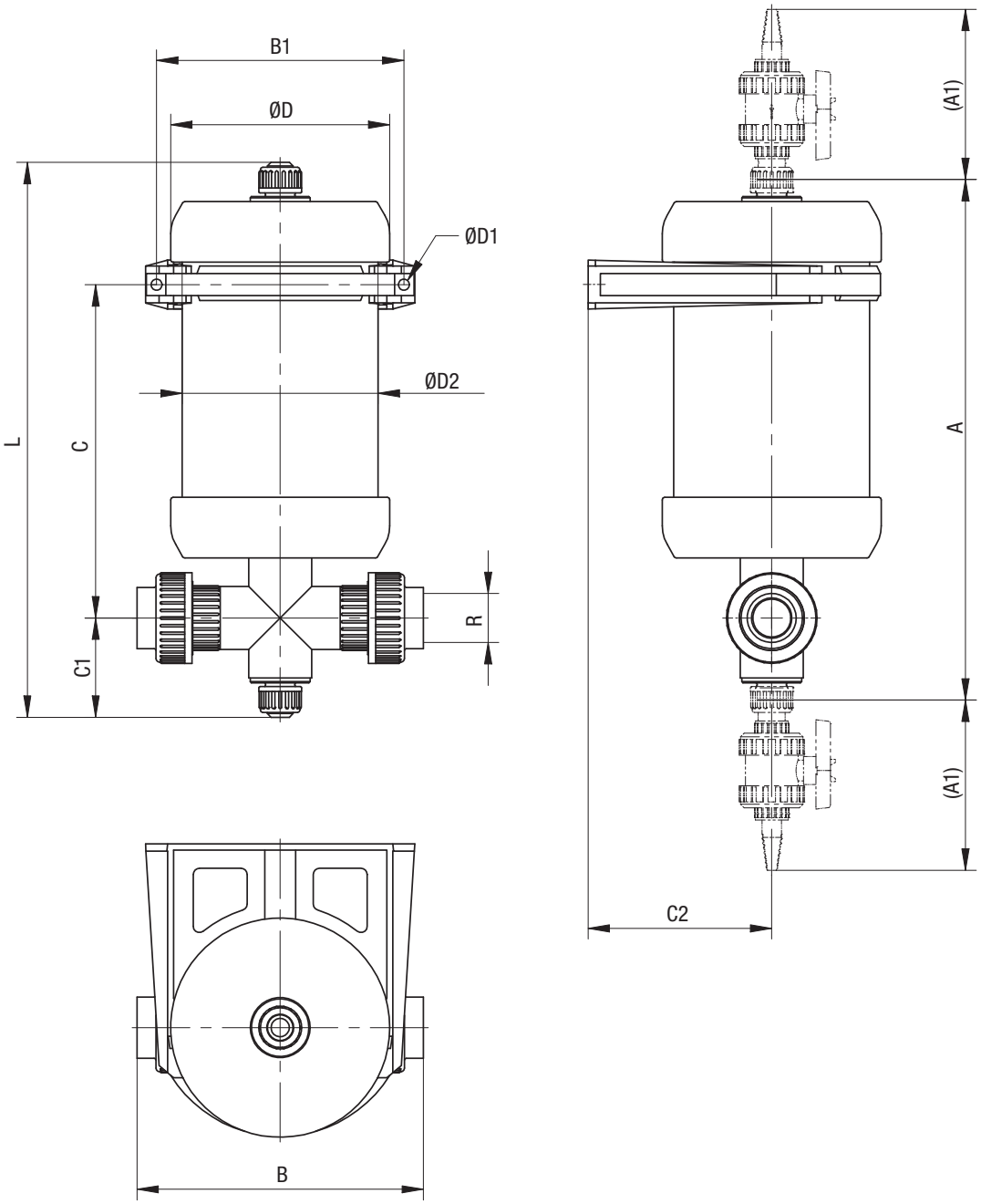


Fig. 6: Dimensions suction pulsation dampener 1000 – 5000

Type	A	A1	B	B1	C	C1	C2	D	D1	D2	L	R
1000	327	139	145	125	197	65	73	100	9	90	355	DN15/Ø20
3000	425	139	234	202	272	81	150	179	9	160	453	DN32/Ø40
5000	545	139	234	202	392	81	150	179	9	160	573	DN32/Ø40

Tab. 7: Dimensions suction pulsation dampener 1000 – 5000

5.2 Suction pulsation dampener 20000 – 40000

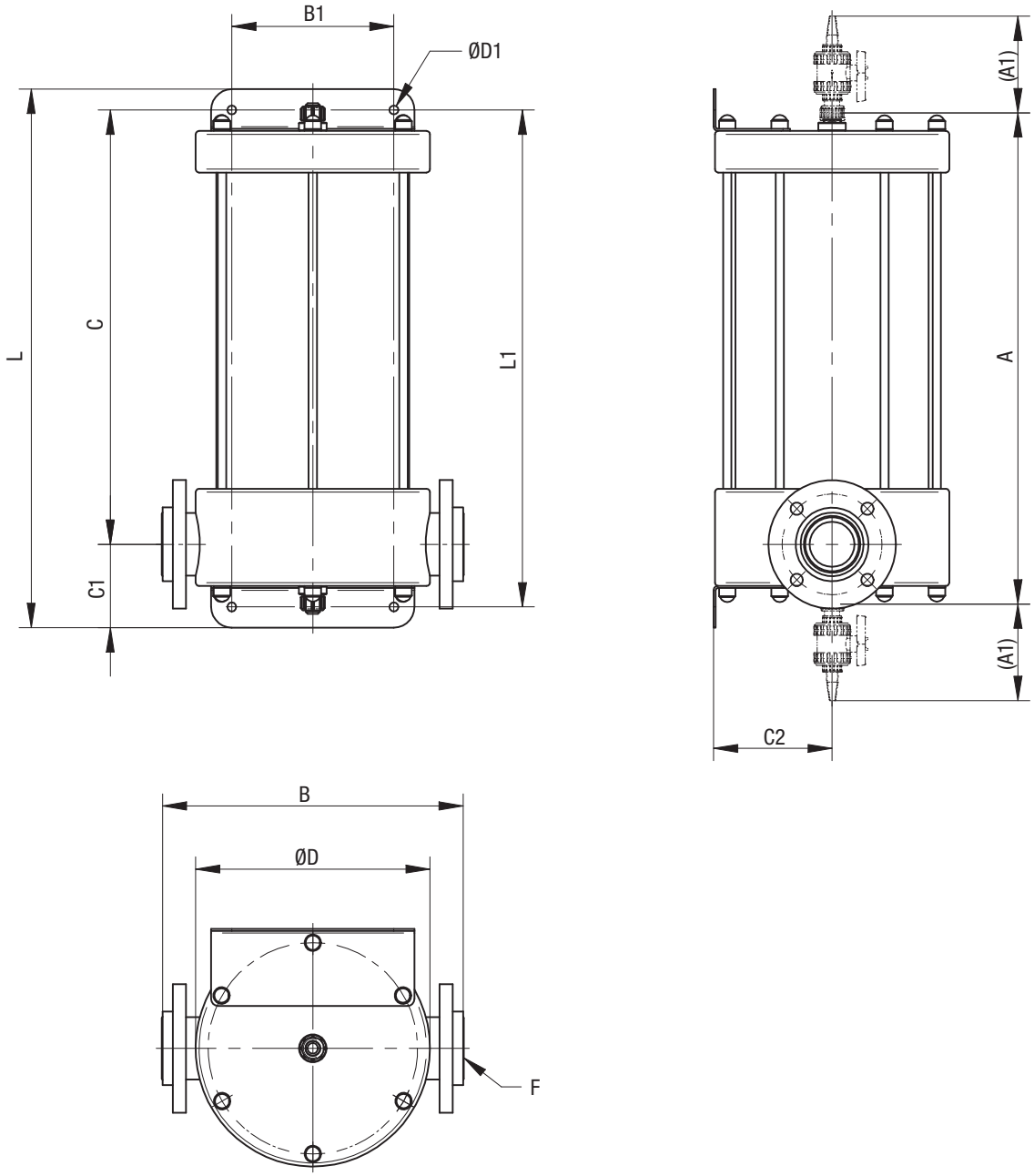


Fig. 7: Dimensions suction pulsation dampener 20000 – 40000

Type	A	A1	B	B1	C	C1	C2	D	D1	L	L1	Flange connection F
20000	707	139	436	235	625	120	172	340	13	775	715	DN65/PN16
40000	1192	139	436	235	1110	120	172	340	13	1260	1200	DN65/PN16

Tab. 8: Dimensions suction pulsation dampener 20000 – 40000

6 Technical data

Indication and unit / Size			1000	3000	5000	20000	40000
Content		**l**	1	3	5	20	40
Max. stroke volume of dosing pump		**ml/ stroke**	160	480	800	3200	6400
Max. operating pressure		**bar**	2				
Materials	**Housing**		transparent PVC			PP grey	
	Seals		FPM or EPDM				
Max. temperature of the medium		**°C**	35			50	
Approved ambient temperature		**°C**	5 – 40			5 – 45	
empty weight		**kg**	1	4	4.5	28	40

Tab. 9: Technical data

7 Installation

WARNING

Danger of explosion

When installing the suction pulsation dampener in the pressurised pipeline of a dosing pump, permitted pressure must not be exceeded.

⇨ Install the suction pulsation dampener in the suction duct of the dosing pump.

7.1 Notes for installation

- The suction pulsation dampener is equipped with a mounting clip (1000 – 5000) and/or mounting angle (20000 – 40000). Use these fixing options to mount the unit.
- The suction pulsation dampener may only be installed on the suction side of a dosing pump.
- It should be installed immediately upstream the suction valve.
- To prevent accumulation of dirt, the suction pulsation dampener should be installed in a vertical position, with the connection side facing downwards.
- Connecting lines should be placed straight and correspond to the nominal connecting diameter of the suction pulsation dampener.
- The weight of the suction pulsation dampener must not excessively affect the pipelines.
- Pipelines must not transfer any mechanical tensions onto the suction pulsation dampener.
- The unit should be integrated into the piping network so as to be well-accessible and free of vibrations.
- Shut-off valves for maintenance purposes should be installed in the pipeline upstream and downstream the unit.
- The suction line should be ready for installation of a manometer, so that proper function of the suction pulsation dampener can be checked.

7.2 Installation example

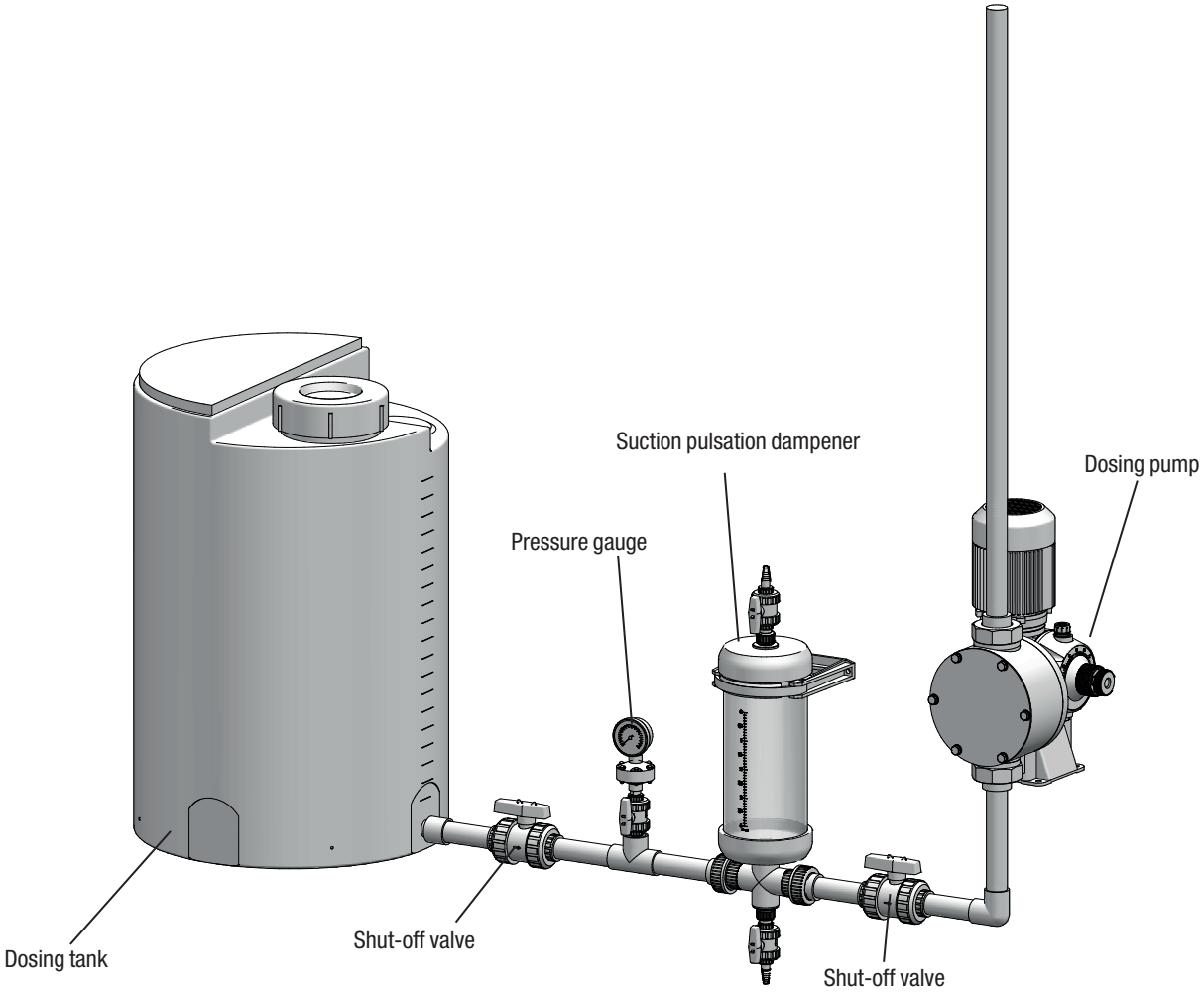


Fig. 8: Installation example

8 Operation

8.1 Commissioning

8.1.1 Filling the suction pulsation dampener

Prior to commissioning, the suction pulsation dampener must be filled with a liquid to 30 % – 50 % of its volume. The procedure differs depending on the installation method.

For installations with a feed (the dosing tank is above the dosing pump)

Perform the following working steps:

1. Close the refilling and drain valve on the suction pulsation dampener.
2. Open the shut-off valves in the suction duct upstream the suction pulsation dampener.
3. Let the dosing medium flow from the dosing tank into the unit until approx. 30 % – 50 % of the volume has been filled.

For installations without a feed (the dosing tank is below the dosing pump)

Perform the following working steps:

1. Close the drain valve on the suction pulsation dampener.
2. Open the refilling valve.
3. Close the hose nozzle of the manual vacuum pump on the refilling valve of the suction pulsation dampener.
4. Run the manual vacuum pump until 30 % – 50 % of the volume has been filled with the liquid.

Direct refilling of the suction pulsation dampener

Perform the following working steps:

1. Close the drain valve on the suction pulsation dampener.
2. Close the shut-off valves in the suction duct.
3. Screw the refilling valve and the sealing plug off the suction pulsation dampener.
4. Use a funnel for refilling the suction pulsation dampener.

8.1.2 Switch on the dosing pump

➔ Put the dosing pump and/or the system into operation in accordance with the respective Operating instructions.

✓ **Suction pulsation dampener commissioned.**

8.2 Checking pressure fluctuations

The suction pulsation dampener is not provided with any separating membrane. Therefore, the dosing medium is in permanent contact with the gas cushion. The gas is gradually dissolved in the dosing medium, so that regular bleeding and restoration of the gas cushion cannot be avoided.

Use a manometer in the suction duct to check if the unit sufficiently dampens pulsation. Any residual pressure fluctuations should be maximum 20 %. As soon as pressure fluctuations reach or exceed this value, the gas cushion in the suction pulsation dampener must be replenished.

8.3 Replenishing gas cushion

Replenishing gas cushion with the help of the dosing pump

Perform the following working steps:

1. Close the drain valve upstream the suction pulsation dampener.
2. Open the refilling valve.
3. Let the dosing pump perform a few strokes until the filling volume has reached approx. 30 % – 50 %.
4. Close the refilling valve.

Replenishing gas cushion through drain valve

Precondition for action:

✓ The escaping medium is collected in an appropriate tank or drained through a hose.

Perform the following working steps:

1. Close the drain valves upstream and downstream the suction pulsation dampener.
2. Open the refilling valve.
3. Open the drain valve.
4. Let the dosing medium flow until the filling volume has reached approx. 30 % – 50 %.
5. Close the drain valve.
6. Close the refilling valve.
7. Open the drain valves upstream and downstream the suction pulsation dampener.

✓ **The air cushion has been replenished.**

8.4 Decommissioning the pulsation dampener

Precondition for action:

✓ The dosing pump or the system was disconnected from voltage supply and/or shut down and secured against re-activation.

✓ Pressure has been released in the system.

Perform the following working steps:

1. Close the shut-off valves in the suction duct.
2. Open the drain valve on the suction pulsation dampener.
3. Wail until all dosing medium has flown out of the suction pulsation dampener.
4. Open any drainage fittings on the system and empty the pipelines.
5. Remove any residual dosing medium from the pulsation dampener by flushing the system with a washing agent. Ensure that the washing agent is compatible with the dosing medium.
6. Disassemble the suction pulsation dampener from the pipeline.

✓ **Suction pulsation dampener shut down.**

8.5 Storage

Storing the suction pulsation dampener correctly will extend its service life. You should avoid negative influences such as extreme temperatures, high humidity, dust, chemicals, etc.

Ensure ideal storage conditions where possible:

- The storage place must be cold, dry, dust-free and moderately ventilated.
- Temperatures between + 2 °C and + 40 °C
- Relative air humidity must not exceed 50 %

8.6 Transportation

Perform the following working steps:

- The unit should be thoroughly cleaned. Any dangerous dosing media must be additionally neutralised and decontaminated.
- All accessories should be dismantled.
- All openings should be closed, so that no foreign objects can get into the system.
- The suction pulsation dampener must be suitably packed, preferably in the original packing, and transportation.

If the device is sent back to the manufacturer, please follow chapters 10 “Declaration of no objection” on page 18 and 11 “Warranty claim” on page 19.

8.7 Disposal of old equipment

- The waste unit must be thoroughly cleaned. Any dangerous dosing media must be additionally neutralised and decontaminated.
- Any residual dosing media must be removed in a professional manner.
- The suction pulsation dampener must be disposed of in accordance with local applicable laws and regulations. The device does not belong to household waste!
- As the disposal regulations may differ from country to country in the European Union, please consult your supplier if necessary. In Germany the manufacturer must provide free-of-charge disposal provided the unit has been sent in a safe manner.

8.8 Troubleshooting

See below for information about how to rectify faults on the device or the system. Should you not be successful in eliminating the fault, please contact the manufacturer to discuss further measures.

Type of fault	Possible cause	Remedy
Too small and/or sinking pulsation dampening effect	Gas cushion has been spent or is not sufficient	Ventilate suction pulsation dampener
Too small and/or sinking pulsation dampening effect	Incorrectly sized pulsation dampener	Use correctly sized pulsation dampener.

Tab. 10: Troubleshooting

9 EU Declaration of Incorporation

(DE) Einbauerklärung im Sinne der EG-Richtlinie 2006/42/EG über Maschinen (Anhang II B)
Hiermit erklären wir, dass die nachstehend beschriebene unvollständige Maschine alle grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG erfüllt, soweit es im Rahmen des Lieferumfangs möglich ist. Ferner erklären wir, dass die speziellen technischen Unterlagen gemäß Anhang VII Teil B dieser Richtlinie erstellt wurden. Wir verpflichten uns, den Marktaufsichtsbehörden auf begründetes Verlangen die speziellen Unterlagen zu der unvollständigen Maschine über unsere Dokumentationsabteilung zu übermitteln. Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn ggf. festgestellt wurde, dass die Maschine oder Anlage, in welche die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Richtlinie 2006/42/EG über Maschinen entspricht und die EG-Konformitätserklärung gemäß Anhang II A ausgestellt ist.

(EN) Declaration of Incorporation according to EC directive 2006/42/EC on machinery (Annex II B)
Herewith we declare, that the partly completed machinery described below is complying with all essential requirements of the Machinery Directive2006/42/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.

(FR) Notice de montage dans le cadre de la directive européenne 2006/42/CE relative aux machines (annexe II B)
Nous expliquons ici que la machine incomplète décrite ci-après répond à toutes les exigences fondamentales de la directive relative aux machines 2006/42/CE, pour autant que cela soit possible dans le cadre du volume de livraison. Plus loin nous expliquons que les documents techniques spéciaux sont établis conformément à l'annexe VII partie B de cette directive. Pour ce qui est de notre service de documentation, nous nous engageons à communiquer aux autorités de surveillance du marché les explications fondées des documents spéciaux pour la machine incomplète. La machine incomplète doit d'abord être mise en service, quand il est constaté que la machine ou l'installation dans laquelle la machine incomplète doit être montée répond aux dispositions de la directive 2006/42/CE relative aux machines, et que la notice de conformité européenne est présentée conformément à l'annexe II A.

(ES) Declaración de incorporación según la Directiva 2006/42/CE sobre máquinas (Anexo II B)
Por la presente declaramos que la siguiente cuasi máquina cumple con todas las disposiciones pertinentes de la Directiva 2006/42/CE de máquinas, siempre y cuando lo 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 cuasi máquina a las autoridades de vigilancia del mercado a través de nuestro departamento de documentación en respuesta a una previa solicitud motivada. La cuasi máquina no puede ponerse en servicio sin antes verificar que la máquina o el sistema en el que se instale la cuasi máquina, cumpla con las disposiciones de la Directiva 2006/42/CE de máquinas 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 requerimentos 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 de tal directiva. Comprometemo-nos a a cumprir com as exigências das autoridades de fiscalização que forem feitas a nosso departamento de documentação que estejam relacionadas a qualquer documentação da máquina incompleta. A máquina poderá ser colocada em operação, se necessário for, 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 à declaração de conformidade 2006/42/CE.

Bezeichnung des Gerätes:	**Saug-Pulsationsdämpfer**	Descripción de la mercancía:	**Amortiguador de aspiración y pulsación**
Description of the unit:	**Suction Pulsation Dampener**	Designação do aparelho:	**Redutor Automático de Pulsação**
Désignation du matériel:	**Atténuateur de pulsation**		
Typ / Type:	**1000 – 40000**		

Die unvollständige Maschine entspricht allen Bestimmungen der Richtlinie(n):
The partly completed machine is in conformity with all requirements of the directive(s):

2006/42/EG Maschinenrichtlinie Machinery Directive

Folgende harmonisierte Normen wurden angewandt:
The following harmonised standards were applied:

-

Folgende nicht-harmonisierte Normen und Technische Regelwerke wurden angewandt:
The following harmonised standards were applied:

-

Heinz Lutz
Geschäftsführer / Chief Executive Officer
Lutz-Jesco GmbH
Wedemark, 21.10.2020

Lutz-Jesco GmbH
Am Bostelberge 19
30900 Wedemark
Germany

10 Declaration of no objection

Please copy the declaration, stick it to the outside of the packaging and return it with the device.

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: .....

11 Warranty claim

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: .....

.....

.....

.....

.....

.....

.....

.....

Service conditions of the device

Point of use / system designation: .....

.....

.....

Accessories used (suction line etc.): .....

.....

.....

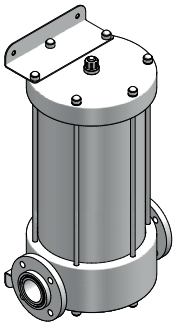
.....

.....

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.



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Operating instructions
Suction pulsation dampener