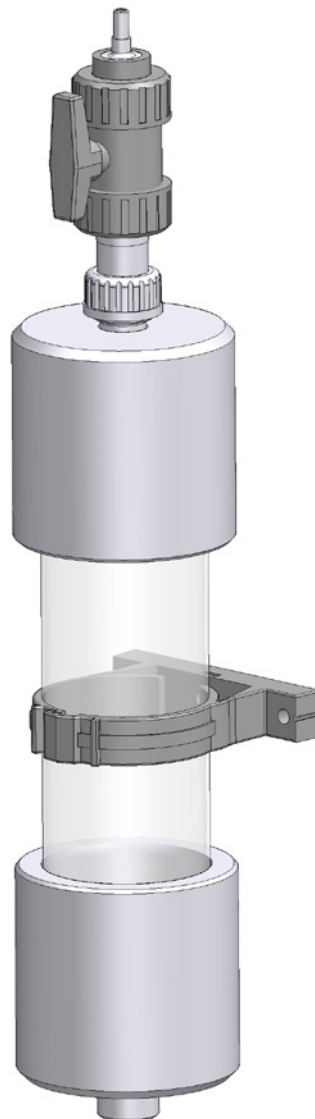


Operating instructions

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[www.sera-web.com](http://www.sera-web.com)

**Keep the operating manual for future use!**

Record the exact type and serial number here.  
(can be read off the type plate on the product)

**Type** :

**Serial No.** :

These data are important in the case of queries or for ordering spare parts and must always be stated.



Operating instructions

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## Operating instructions

### Content

<b>1. General</b> .....	<b>4</b>
1.1 General user information .....	4
1.2 Symbols and notes used in these operating instructions .....	4
1.3 Quality instructions .....	5
<b>2. Safety instructions</b> .....	<b>5</b>
2.1 Personnel qualification and training .....	5
2.2 Dangers in case of inobservance of the safety instructions .....	5
2.3 Safety conscious working .....	5
2.4 Safety instructions for owner / operator .....	5
2.5 Safety instructions for maintenance, servicing and installation work .....	6
2.6 Arbitrary modification and production of spare parts .....	6
2.7 Improper operations .....	6
2.8 Intended use .....	6
2.9 Personal protection for maintenance and service .....	6
<b>3. Transport and storage</b> .....	<b>7</b>
3.1 General .....	7
3.2 Storage .....	7
<b>4. Product description</b> .....	<b>8</b>
4.1 Type plate .....	8
4.2 Temperature range .....	8
4.3 Accessories / Options .....	9
4.3.1 <i>Hand vacuum pump (accessories)</i> .....	9
4.3.2 <i>Brackets (accessories) and clamps (options)</i> <i>for siphon vessel / priming aid 77x.2</i> .....	9
<b>5. Technical data</b> .....	<b>10</b>
5.1 Dimensions .....	10
<b>6. Installation</b> .....	<b>11</b>
6.1 Installation of the siphon vessel .....	11
6.2 Installation of the priming aid .....	12
<b>7. Start-up</b> .....	<b>13</b>
7.1 Start-up of the siphon vessel .....	13
7.2 Start-up of the priming aid .....	14
<b>8. Decommissioning</b> .....	<b>15</b>
<b>9. Disposal</b> .....	<b>15</b>
9.1 Dismantling and transport .....	15
9.2 Complete disposal .....	15
<b>10. Clearance certificate</b> .....	<b>16</b>

## Operating instructions

### 1. General






#### 1.1 General user information

The regulations applicable to the place of installation are to be observed before the commissioning and during the operation of the product from **sera**.

Always read these instructions and particularly the safety instructions before installation and commissioning of the **sera** product.

#### 1.2 Symbols and notes used in these operating instructions

Special notes in these operating instructions are marked with text and danger symbols.

Notes (Text and symbol)	Danger type			Meaning (in the operating instructions)
	Danger to life	Risk of injury	Dam. to property	
<b>DANGER!</b> 	X	X	X	Identifies <b>imminent danger</b> that could lead to death or serious injury if not avoided.
<b>WARNING!</b> 	X	X	X	Indicates a potentially dangerous situation that could lead to death or serious injury and damage to property if not avoided.
<b>CAUTION!</b> 		X	X	Indicates a potentially dangerous situation that could lead to slight or minor injury or damage to property if not avoided.
<b>ATTENTION!</b> 			X	Indicates a potentially dangerous situation that could lead to damage to property if not avoided.
<b>NOTE!</b> 				Indicates information which help to facilitate the work and is useful for a trouble-free operation.

## Operating instructions

### 1.3 Quality instructions

Observance of these operating instructions and, in particular, the safety instructions, helps to

- avoid dangers to persons, machines and environment,
- increase reliability and service life of the product and the complete system,
- reduce repair cost and downtime.

The **sera** quality management and quality assurance system for pumps, systems, valves and fittings and compressors is certified according to ISO 9001:2008.

The **sera** products meet the valid safety and accident prevention regulations.



**ATTENTION!**

**Always keep these operating instructions within reach at the place of installation.**



**WARNING!**

**Pay attention to the safety data sheet of the medium! The owner must take corresponding accident prevention measures to protect operating personnel from danger through the delivery media used!**

## 2. Safety instructions

### 2.1 Personnel qualification and training

The personnel for operation, maintenance, inspection and installation must be suitably qualified for their tasks. The owner must clearly define responsibility and supervision of the personnel.

If the personnel do not have the knowledge required, then personnel is to be trained and instructed correspondingly. Such training can be provided by the manufacturer / supplier upon order of the owner. In addition, the owner has to ensure that personnel have understood the operating instructions completely.

### 2.2 Dangers in case of inobservance of the safety instructions

Inobservance of these safety instructions can result in danger to persons, hazards to the environment and damage to the product.

Inobservance of the safety instructions may lead to:

- Failure of important functions of the product/system.
- Inobservance of prescribed methods for maintenance and servicing.
- Danger to persons through chemical influences.
- Hazards to the environment through leaking dangerous media.

### 2.3 Safety conscious working

The safety instructions specified in this operating manual, the national regulations for accident prevention, the safety regulations for the pumped medium valid at the place of installation as well as internal working-, operating-, and safety instructions of the owner are to be observed.

### 2.4 Safety instructions for owner / operator

Leaking hazardous delivery media supplies are to be disposed off in such a way that any danger to persons and the environment is excluded. The legal regulations are to be observed.

## Operating instructions

### 2.5 Safety instructions for maintenance, servicing and installation work

The owner must ensure that any maintenance-, servicing- and installation work is only entrusted to authorized and suitably qualified personnel who have carefully read and understood the operating instructions.

Only those spare parts are to be used which meet the requirements of the specified operating conditions.

Threaded joints and connections may only be disconnected when the system is not under pressure.

### 2.6 Arbitrary modification and production of spare parts

Modifications of or changes to the product are only permitted after previous agreement of the manufacturer. Original spare parts and accessories which were approved by the manufacturer are essential for safety reasons.



**CAUTION!**

**If the product is modified without authorization of the manufacturer or spare parts are used which are not approved, any warranty claim becomes null and void.**

### 2.7 Improper operations

Operating safety of the supplied product is only guaranteed if the product is used as intended, according to the descriptions in Chapter „Intended use“ of these operating instructions.

### 2.8 Intended use

The **sera** product is only to be deployed according to the intended purpose stated in the product description. If the product is to be used for other applications, then the suitability of the suction lance for the new operating conditions must be discussed with **sera** beforehand!

Criteria for operation of the product in accordance with the intended use:

- Observe characteristics of the medium (please see safety- and product data sheet of the delivery medium – the safety data sheet is to be provided by the supplier / owner of the pumped medium).
- Resistance of the materials which come into contact with the pumped medium.
- Operating conditions at the place of installation.
- Temperature of the pumped medium.
- Max. pressure of the product.

### 2.9 Personal protection for maintenance and service

National safety regulations for the pumped medium must strictly be adhered to.

In case of accidents check whether the following substances are emitted:

- Leaking fluids.
- Leaking vapours.

Emissions are to be monitored by corresponding control systems of the total installation.

## Operating instructions



Wear protective clothing, gloves, breathing mask and a face protecting mask.

**ATTENTION!**



Personal protective equipment must be provided by the owner!

**NOTE!**



**NOTE!**



## 3. Transport and storage

### 3.1 General

**sera** - products are checked for perfect condition and function previous to shipment.

Check for transport damage immediately after arrival of goods. If damage is found, this is to be reported immediately to the responsible carrier and the manufacturer.



The packaging material must be disposed of appropriately!

**NOTE!**

### 3.2 Storage

An undamaged packaging protects the unit during storage and should only be opened when the product is installed.

Proper storage increases the service life of the product and includes prevention of negative influences such as heat, moisture, dust, chemicals etc.

The following storage specifications are to be observed:

- Storage place: cool, dry, dustfree and slightly ventilated
- Storage temperature between +2°C and +40°C
- Relative air humidity not more than 50 %.
- The maximum storage time is 12 months.

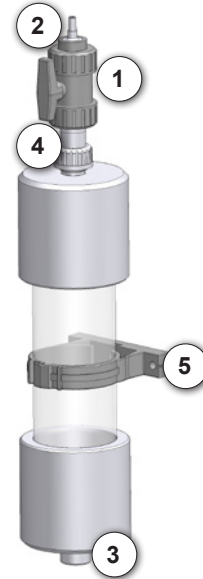
Do not store solvents, fuels, lubricants, chemicals, acids, disinfectants and similar in the storage room.

## Operating instructions


### 4. Product description

sera siphon vessels / priming aids are used to simplify startup of dosing pumps and ensure – if installed correctly - that no gas cushions can form inside the suction pipe if a medium is drawn in from a container via a siphon pipe.

1	Shut-off fitting with filling and ventilation joint
2	Connection hand vacuum pump HVP1
3	Inlet
4	Outlet
5	Mounting clamp



#### 4.1 Type plate

sera GmbH www.sera-web.com			
Typ/type	①		
Mat./mat.	④	PS	⑦ bar
Nr./no.	②	V	⑥ L
Bj./year	③	TS min./max.	⑤ °C

No.	Designation
1	Type designation
2	Serial number
3	Year of manufacture
4	Material of casing / seal
5	Temperature range [°C]
6	Volume [litre]
7	Pressure range [bar]

#### 4.2 Temperature range

The temperature range of the siphon vessels / priming aids is between 0°C und +40°C (in relation to water).

The temperature range changes depending on the medium ► this must be checked by the owner.



## Operating instructions

### 4.3 Accessories / Options

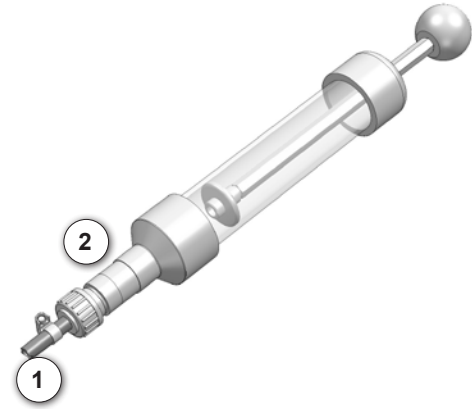
#### 4.3.1 Hand vacuum pump (accessories)

Hand vacuum pump according to the **sera** data sheet no. 10135, Item-No.: 90008822.

The hand vacuum pump is used for evacuation of **sera** siphon vessels / priming aids.

The pump made of PVC is resistant to chemical vapours. A hose nozzle with a suction hose (1) of 1.5 m length is installed at the end of the pump.

The built-in check valve (2) prevents a back-flow of the air drawn in.



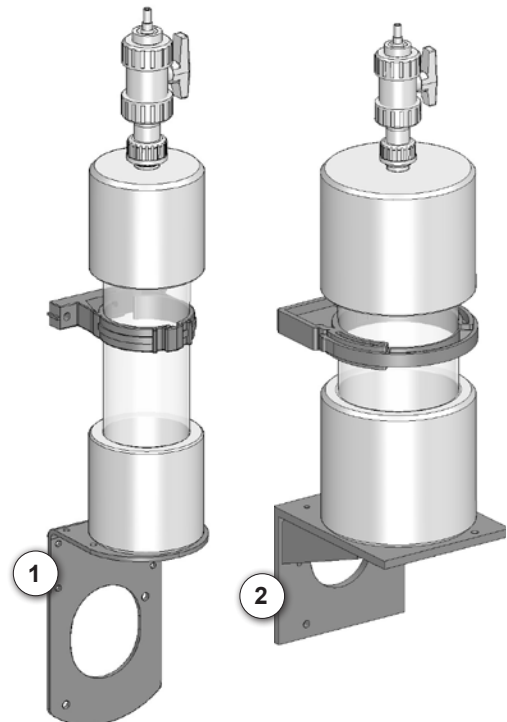
#### 4.3.2 Brackets (accessories) and clamps (options) for siphon vessel / priming aid 77x.2

Brackets according to the **sera** data sheet no. 10526.

Brackets for wall mounting		
No.	Material	Item-No.
1	1.4301	90010911
	Color treated steel	90010912
2	PP	90010913

Clamps according to the **sera** data sheet no. 10379.

Clamps			
Siphon vessel / Priming aid Type	Internal diameter (mm)	Item-No.	
770.2	90	90010657	
771.2	140	90010660	
772.2	160	90010661	

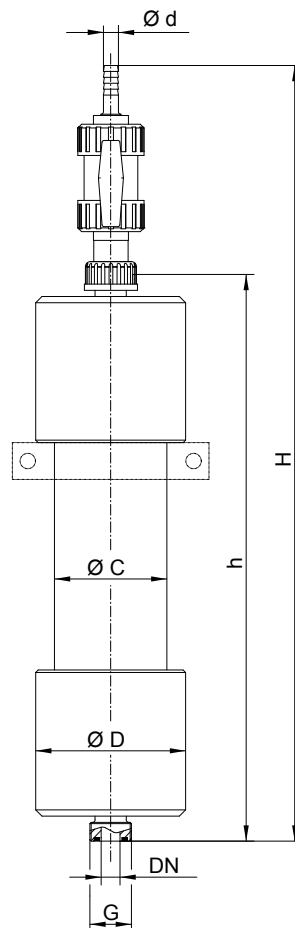


## Operating instructions

### 5. Technical data

Type	Nominal width DN	Max. admissible operating pressure bar	Content l	Empty weight kg	Flow rate up to l/h	Materials		Item-No.
						Housing	Seals	
770.2	15	-1...+2	2	3,2	4000	PVC-U / PVC-transp.	EPDM	30075007
							FPM	30075008
771.2	20	-1...+2	5	9,0	4000		EPDM	30075009
							FPM	30075010
772.2	40	-1...+2	10	13,3	4000		EPDM	30075011
							FPM	30075012

### 5.1 Dimensions



Type	H	h	C	D	d	G
mm						
770.2	620	459	90	120	12	G1
771.2	645	484	140	180	12	G1 1/4
772.2	798	637	160	220	12	G2 1/4

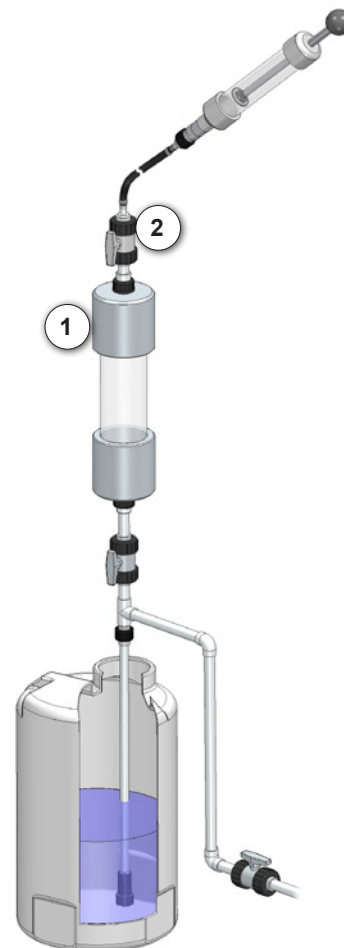
## Operating instructions

### 6. Installation

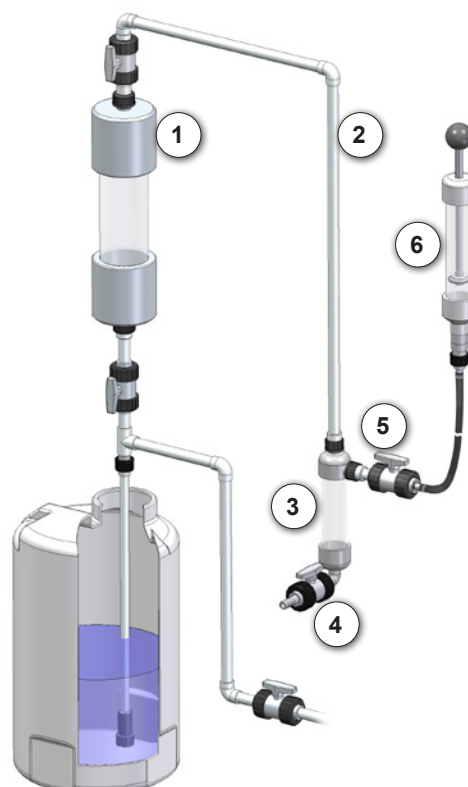
#### 6.1 Installation of the siphon vessel

Install the siphon vessel (1) at the highest spot of the suction pipe vertically in the holder of the siphon pipe in such a way that it is easy to reach and visible.

The pipe connection of the vent valve (2) must point upwards.



If the siphon vessel (1) is hard to reach a rigid pipe (2) is to be layed down the tank at operator height. Install a transparent collecting tank (3) (volume min. 2 l) with drain shut-off valve (4) and shut-off valve (5) for the hand vacuum pump (6) at the end of this pipe.

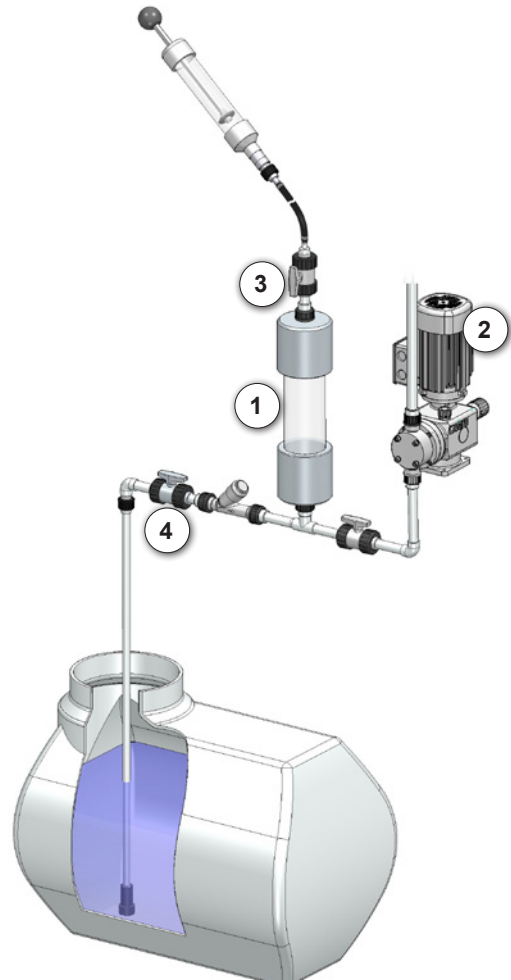


## Operating instructions

### 6.2 Installation of the priming aid

Install the priming aid (77x.2) (1) in such a way that it is easy to reach and not under tensions or vibrations in close proximity to the pump (2).

The vent valve (3) must point upwards. Mount a shut-off valve (4) directly in front of the priming aid.




## Operating instructions

### 7. Start-up

#### 7.1 Start-up of the siphon vessel

##### Start-up 1


Connect the **sera** hand vacuum pump (accessories) (1) to the pipe connection and open vent valve (2) on the siphon vessel. Evacuate the air in the siphon vessel and the siphon pipe by means of the hand vacuum pump. Siphon pipe and siphon vessel are filled with medium owing to the vacuum.



**ATTENTION!** Close the vent valve as soon as the siphon vessel is filled up to maximum 80% of the transparent tube!

##### Start-up 2

The vent valve (3) is always open. For ventilation the vent valve (4) is to be opened and the system to be evacuated by means of the hand vacuum pump.




**ATTENTION!** Stop evacuation and close the vent valve (4) as soon as the siphon vessel is filled up to maximum 80% of the transparent tube.

If evacuation is continued by mistake until medium enters the collecting tank evacuation is to be stopped immediately and the vent valve (4) to be closed.


Empty the evacuating pipe and the collecting tank (5) immediately. The vent valve (3) is to be closed for this purpose. Then open the drain shut-off valve (6) carefully and bleed medium in a safe and ecologically beneficial manner.

In order to empty the evacuating pipe and the collecting tank completely loosen a screwed pipe connection at the highest spot of the evacuating pipe so that air can flow in.

Then tighten screwed connection and close the drain shut-off valve (6).

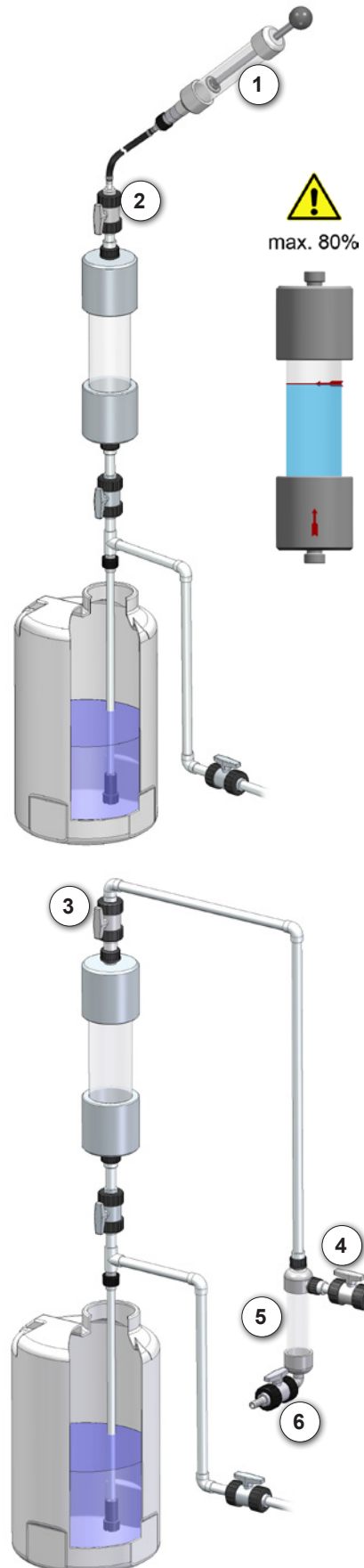


**ATTENTION!** Do not evacuate the siphon vessel when dosing- / feed pump are running.



**NOTE!** During operation gas bubbles may form due to the pressure ratio and fluid properties of the pumped medium.

Therefore, pipes to the siphon vessel are to be layed upgrade so that gas bubbles are accumulated here. If the liquid level in the siphon vessel drops until there is no more liquid in the transparent part start evacuation again as described above.



## Operating instructions

### 7.2 Start-up of the priming aid

Connect the sera hand vacuum pump (accessories) (1) to the pipe connection and open the vent valve (2) on the priming aid. Evacuate air in the priming aid and the suction pipe by means of the hand vacuum pump. Suction pipe (3) and priming aid are filled with medium owing to the vacuum.



#### ATTENTION!

Close the vent valve as soon as the priming aid is filled up to maximum 80% of the transparent tube.



#### NOTE!

Using a priming aid cannot prevent gas cushions from being formed at the highest spot of the suction pipe during operation of the dosing- and feed pump which lead to failure of the pumps or dosing errors at medium term.

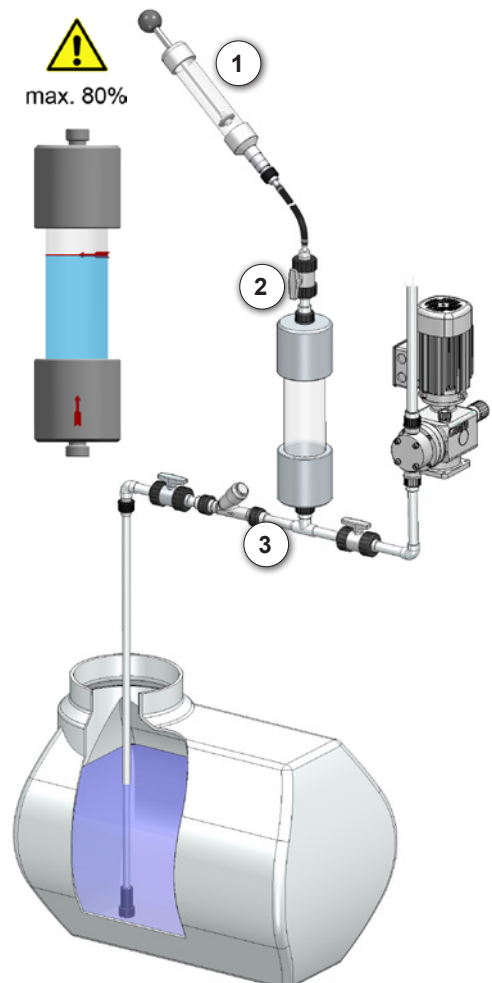
#### Functional check

If the liquid level in the priming aid drops until there is no more liquid in the transparent part start evacuation again as described above.



#### ATTENTION!

Do not evacuate the priming aid when dosing- / feed pump are running.



## Operating instructions

### 8. Decommissioning

The following points must be observed when you decommission:

- Switch off the unit.
- Disconnect the unit from the power supply.
- Empty the product.



**DANGER!**

After the chemical was drained, rinse the unit / product with water or a suitable medium until there are no more chemical residues!  
Note the compatibility of the rinsing medium with the chemical according to the safety data sheet.

Exothermic reactions must be avoided by all means!

### 9. Disposal

- Shut-down the product. Please see "Decommissioning".

#### 9.1 Dismantling and transport

- Package the suction lance and ship.



**NOTE!**

A clearance certificate must be filled in when systems are returned to the manufacturer (see Chapter „Clearance certificate“).

Acceptance will be rejected if this clearance certificate is not attached.



**WARNING!**

The consignor is responsible for leaking fluids!

#### 9.2 Complete disposal

- Remove all fluid residues.
- Dismount materials and send them to a suitable waste disposal company!



**WARNING!**

The consignor is responsible for leaking fluids!

## Operating instructions

### 10. Clearance certificate



**NOTE!**

Inspection / repair of machines and machine parts is only carried out after the opposite clearance certificate was filled in correctly and completely by authorized and qualified personnel.



**NOTE!**

Acceptance will be refused if parts are returned to the manufacturer without a proper clearance certificate.

All industrial companies are obligated by the legal provisions for occupational health, e.g. the workplaces ordinances, the Ordinance on Hazardous Substances, the regulations for prevention of accidents and the environmental protection regulations such as the Waste Management Act and the German Household Water Act to protect their employees or man and the environment from detrimental effects when handling hazardous substances.

Should special safety precautions be necessary despite careful draining and cleaning of the product the necessary information are to be provided.

Machines which are operated with radioactive media shall only be inspected and/or repaired in the safety area of the owner by a sera specialized fitter.

The clearance certificate is part of the inspection-/repair order.  
sera reserves the right to refuse acceptance of the order for other reasons.



**NOTE!**

**Please make a copy and leave the original with the operating instructions!**  
(can also be downloaded from: [www.sera-web.com](http://www.sera-web.com))



Operating instructions

**Clearance Certificate**

**Product**

Type  Serial-No.

the product was carefully emptied before shipping / delivery, and cleaned inside and outside.  YES

**Conveying medium**

Designation  Concentration  %

**Properties**

Please tick!

Harmless 

If either of the listed properties, then enclose the appropriate safety and handling instructions.

Toxic  Corrosive  Flammable  Oxidising  Unhealthy  
 Explosive  Dangerous for the environment  Irritant  Bio-hazardous  Radioactive

The product was used with health or water-polluting substances and came up with labeling requirements and pollution prone media in contact.  YES  NO

Special security arrangements with respect to health or water-hazardous media are in the further handling  not required  required

The following safety precautions regarding rinsing, residual liquids and waste disposal are required:

**Process data**

The product was used with the following operating conditions described conveying medium:

Temperature  °C Pressure  bar

**Sender**

Company: \_\_\_\_\_ Telephone: \_\_\_\_\_

Contact person: \_\_\_\_\_ FAX: \_\_\_\_\_

Address: \_\_\_\_\_ E-mail: \_\_\_\_\_

Zip code, City: \_\_\_\_\_ Your order No: \_\_\_\_\_

**We confirm that we have the information in this safety certificate (Clearance Certificate) have been correctly and completely and that the returned parts were carefully cleaned.**

**The parts are sent free of residues of dangerous amount.**

Place, Date \_\_\_\_\_ Department \_\_\_\_\_ Signature (and company stamp) \_\_\_\_\_

Operating instructions

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NOTES

Operating instructions

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