Tanks
Dosing tank and accessories
Installation and operating instructions
Original installation and operating instructions.

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1. Symbols used in this document

Warning
If these safety instructions are not observed, it may result in personal injury.

Caution
If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note
Notes or instructions that make the job easier and ensure safe operation.

2. General notes

These installation and operating instructions contain all the information needed to commission and operate the dosing tank listed below.

If you require further information, or should problems arise which are not described in detail in this manual, please contact your nearest Grundfos branch.

3. Warranty

A warranty claim in accordance with our general terms of sale and delivery is only valid, if the following requirements are fulfilled:

• The product is used in accordance with the information in this manual.
• The product is not dismantled or incorrectly handled.
• The maintenance is carried out by authorised and qualified personnel.

4. Qualification and training of personnel

The personnel responsible for the installation, operation and service must be appropriately qualified for these tasks. Areas of responsibility, levels of authority and the supervision of the personnel must be precisely defined by the operating company. If necessary, the personnel must be trained appropriately.

Warning
Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.
5. Safety

These installation and operating instructions contain general instructions that must be observed during installation, operation and maintenance of the dosing tank. They must be read by the installation engineer and the relevant qualified operator prior to installation and start-up, and must be available at the installation location at all times.

5.1 Safety-conscious working

The safety notices in these instructions should be observed in the same way as statutory health and safety at work guidelines and the operating and safety notices provided by the operating company.

Risks of not observing the safety instructions

Non-observance of the safety instructions may have dangerous consequences for the personnel, the environment and the pump and may result in the loss of any claims for damages. It may lead to the following hazards:

- Personal injury from exposure to electrical, mechanical and chemical influences.
- Damage to the environment and personal injury from leakage of harmful substances.
- Failure of important functions of the system.

5.2 Safety notices on installation and maintenance work

All safety and protection equipment must be put back into operation as soon as work is complete.

- Installation and maintenance must only be carried out by authorised and qualified personnel.

- When dosing dangerous media, observe the corresponding safety precautions.

- Wear protective clothing (gloves and goggles) if required.

5.3 Unauthorised conversions and impermissible spare parts

Modifications or changes to the dosing tank are only permitted with the consent of the manufacturer. Genuine spare parts and accessories approved by the manufacturer are safe to use.

6. Transport and storage

- Do not throw or drop the dosing tank.

6.1 Unpacking

- Retain the packaging for future storage or return, or dispose of the packaging in accordance with local regulations.
- Install the dosing tank as soon as possible after unpacking.

6.2 Storage

Keep the dosing tank in a dry, cool place.

- Min./Max. storage temperature: -20 to +45 °C.

7. Applications

Grundfos dosing tanks are intended as reservoirs for storage and dosing of chemicals, as described in these instructions.

- No other applications are approved or permitted.

- Grundfos is not liable for damage resulting from incorrect use.

7.1 Improper operating methods

The operational safety of the pump is only guaranteed if it is used in accordance with section 9. Technical data.

The specified limit values should not be exceeded.

8. Product overview

8.1 General description

The dosing tank can be used as a reservoir for dosing media. Depending on the model, the dosing tank can be fitted with a dosing pump, suction lance and stirrer.

Characteristics of the dosing tank:
- Cylindrical tank with screw cap
- 7 sizes ranging between 40 and 1000 litres
- Embossed litre scale
- Moulded 3/4” thread for drain valve, not drilled open, closed with gasket and screw plug
- Moulded 2” thread for connection of Grundfos suction lance, closed with gasket and screw plug
- Screw cap with gating for holding a standard key lock
- Installation space for dosing pump and electric stirrer and/or handheld mixer, above the filler opening
- The 60 to 500-litre dosing tanks have sintered M6 threaded inserts
  - for assembly of DDA, DDE, DDC, DDI 222, or DMX 221 dosing pump
  - for assembly of electric stirrer
  - for floor mounting with a set of brackets and fixing screws.

8.2 Assembled dosing tank station

![Assembled dosing tank station (example)](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dosing pump</td>
</tr>
<tr>
<td>2</td>
<td>Dosing tank</td>
</tr>
<tr>
<td>3</td>
<td>Electric stirrer</td>
</tr>
<tr>
<td>4</td>
<td>Suction lance</td>
</tr>
<tr>
<td>5</td>
<td>Level indication for switch-off of electric stirrer</td>
</tr>
</tbody>
</table>
9. Technical data

9.1 Operating conditions

The resistance of the parts that come into contact with media depends on the medium, media temperature and operating pressure. Ensure that parts which come into contact with media during operating conditions are resistant to the dosing medium.

- Min./Max. ambient temperature: -20 to +45 °C
- Min./Max. storage temperature: -20 to +45 °C
- Min./Max. liquid temperature: -20 to +45 °C

Dosing medium must be in the liquid phase.

9.2 Material

- Tank: UV-stabilised polyethylene (LLDPE)
- Gaskets in screw cap and screw plugs: EPDM
- Screw plugs: PE

9.3 Dosing tank versions

Size
- 40 litres
- 60 litres
- 100 litres
- 200 litres
- 300 litres
- 500 litres
- 1000 litres

Colour
- natural white (semi-transparent) with black cap, or
- black (for media sensitive to light) with black cap

Prepared for direct assembly of an electric stirrer
- with opening for electric stirrer (60-500 l)
- with opening and reinforced beam for holding an electric stirrer (1000 l).

9.4 Product numbers, volume, weights

<table>
<thead>
<tr>
<th>Product number</th>
<th>Volume [l]</th>
<th>With opening for electric stirrer</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>96688081</td>
<td>40</td>
<td>-</td>
<td>3.4</td>
</tr>
<tr>
<td>98148805</td>
<td>60</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>98150038</td>
<td>100</td>
<td>yes</td>
<td>7.5</td>
</tr>
<tr>
<td>98149057</td>
<td>200</td>
<td>yes</td>
<td>11.5</td>
</tr>
<tr>
<td>98150051</td>
<td>300</td>
<td>yes</td>
<td>13</td>
</tr>
<tr>
<td>98149215</td>
<td>500</td>
<td>-</td>
<td>28</td>
</tr>
<tr>
<td>98150053</td>
<td>1000</td>
<td>yes, with reinforced beam</td>
<td>48</td>
</tr>
</tbody>
</table>

9.5 Dimensions

Fig. 2 40-litre dosing tank

Fig. 3 60 and 100-litre dosing tank
Fig. 4  200 and 300-litre dosing tank

Fig. 5  500-litre dosing tank

Fig. 6  1000-litre dosing tank
10. Installation

10.1 General notes

⚠️ Warning
The dosing tank may only be installed by a qualified specialist.

10.2 Tightness test
1. Before filling the dosing tank, check that the following requirements are fulfilled:
   - the suction lance is connected,
   - the optional drain valve is fully closed.
2. Fill the dosing tank with water and check for leaks.

11. Commissioning and operation

The dosing tank is not operated. Within the system, it simply serves as a reservoir for storage and dosing of the medium.

When commissioning, all the system components must be ready for operation.
Follow the installation and operating instructions for the components used.

12. Maintenance

The dosing tank requires no maintenance.

Caution
Follow the installation and operating instructions for the components used.

12.1 Cleaning

Clean the dosing tank and accessories if necessary.

⚠️ Warning
When dosing dangerous media, observe the corresponding safety precautions.
Wear protective clothing (gloves and goggles) if required.

Caution
Follow the installation and operating instructions for the components used.

13. Accessories

13.1 Collecting tray

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>96726831</td>
<td>60</td>
<td>80</td>
<td>PE</td>
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<td>500</td>
<td>545</td>
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<tr>
<td>96726832</td>
<td>100</td>
<td>120</td>
<td>PE</td>
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<td>500</td>
<td>700</td>
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<tr>
<td>98150059</td>
<td>200</td>
<td>210</td>
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<td>transparent</td>
<td>770</td>
<td>595</td>
</tr>
<tr>
<td>96726834</td>
<td>300</td>
<td>400</td>
<td>PE</td>
<td>transparent</td>
<td>770</td>
<td>960</td>
</tr>
<tr>
<td>95701272</td>
<td>500</td>
<td>500</td>
<td>PE</td>
<td>transparent</td>
<td>860</td>
<td>980</td>
</tr>
<tr>
<td>96726836</td>
<td>1000</td>
<td>1000</td>
<td>PE</td>
<td>transparent</td>
<td>1150</td>
<td>1080</td>
</tr>
</tbody>
</table>

13.2 Handheld mixer

Product number: 98133793
Handheld mixer, PVC, for mixing chemicals in the dosing tank. The handheld mixer is suitable for 40 to 500-litre Grundfos dosing tanks.

- With DN 15 through-bolt for connection to the dosing tank
- Shaft length 1200 mm, length can be adapted to the corresponding dosing tank:
  - For pre-assembled dosing tank stations, the length of the handheld mixer is adapted to the tank size before delivery.
  - If ordered separately, adapt the length of the handheld mixer to the tank on site and stick on the knob again.

Caution
Follow the installation and operating instructions for the components used.

Warning
When dosing dangerous media, observe the corresponding safety precautions.
Wear protective clothing (gloves and goggles) if required.

Caution
Follow the installation and operating instructions for the components used.

Fig. 7 Handheld mixer

13.3 Electric stirrer

Electric stirrers ensure that the dosing medium in the dosing tank is mixed constantly. 1500 rpm electric stirrers are suitable for dosing media with low viscosity.

Grundfos electric stirrers are available in the following versions:

- 7 sizes for Grundfos dosing tanks with contents of between 60 litres and 1000 litres.
- 3-phase or single-phase motor.
- Material version: mixing shaft / mixing blade
  - standard: stainless steel, PP-coated / glass-fibre reinforced PP.
  - for aggressive media: stainless steel 1.4571/ glass-fibre reinforced PP.

For more details please refer to the instructions for the electric stirrers.
13.4 Side extraction device

- The PVC / FKM side extraction device can only be used on dosing tanks without collecting tray.
- Please order the connections for extraction pipes separately.
- The length of the liquid riser is adapted to the dosing tank in question, if required.

1. Fit the extraction device in the coupling thread of the dosing tank:
   - Unscrew the screw plug
   - Drill open the threaded hole
   - Screw in the extraction device and seal with Teflon tape.

2. Use the provided installation material to fix the liquid riser to the tank wall:
   - Cut M6 thread into tank wall
   - Fit a screw from inside through tank wall and counter nut, and then screw it into the retaining ring.
   - Secure from outside with the counter nut.

3. Seal the liquid riser with the provided screw plug.

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>96697826</td>
<td>Side extraction device DN 4 / DN 8</td>
</tr>
<tr>
<td></td>
<td>• with stop valve and filter</td>
</tr>
<tr>
<td></td>
<td>• for fitting in coupling thread of dosing tank</td>
</tr>
<tr>
<td>96697988</td>
<td>Side extraction device DN 4 / DN 8</td>
</tr>
<tr>
<td></td>
<td>• with stop valve, filter and liquid riser</td>
</tr>
<tr>
<td></td>
<td>• extraction to the right</td>
</tr>
<tr>
<td></td>
<td>• with through-bolt for connection to dosing tank</td>
</tr>
<tr>
<td>96696926</td>
<td>Side extraction device DN 4 / DN 8</td>
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<tr>
<td></td>
<td>• with stop valve, filter and liquid riser</td>
</tr>
<tr>
<td></td>
<td>• extraction to the left</td>
</tr>
<tr>
<td></td>
<td>• with through-bolt for connection to dosing tank</td>
</tr>
<tr>
<td>96727271</td>
<td>Side extraction device DN 20</td>
</tr>
<tr>
<td></td>
<td>• with ball cock</td>
</tr>
<tr>
<td></td>
<td>• with through-bolt for connection to dosing tank</td>
</tr>
<tr>
<td>96727270</td>
<td>Side extraction device DN 20</td>
</tr>
<tr>
<td></td>
<td>• with ball cock and liquid riser</td>
</tr>
<tr>
<td></td>
<td>• with through-bolt for connection to dosing tank</td>
</tr>
</tbody>
</table>

All dimensions are rough figures given in mm.
13.5 Drain valve G 3/4"

Product number: 96689132
- Drain valve, PVC / EPDM, for installation in the threaded sleeve of the dosing tank
  - Unscrew the screw plug
  - Drill open the threaded hole
  - Screw in the drain valve and seal with Teflon tape.

Fig. 10 Drain valve

13.6 Aeration / ventilation valve for dosing tank

Product number: 96694401
- Aeration / ventilation valve, PVC / FKM / glass, spring-loaded, opening pressure 0.05 bar
1. Observe direction of the arrow on the valve when mounting the valve at the dosing tank. Mounting directions:
   - for ventilation valve: arrow pointing upwards (a)
   - for aeration valve: arrow pointing downwards (b)
2. Drill a hole (Ø24) into the top surface of the dosing tank
3. Attach the valve with the seal ring underneath, and screw it down from the opposite side with the union nut.

Fig. 11 Aeration / ventilation valve

Item | Description
--- | ---
1 | Valve
2 | Union nut
3 | Sealing ring
4 | Dosing tank
(a) | Ventilation valve
(b) | Aeration valve

13.7 Filling unit

Product number: 96727265
- Filling unit, PVC / EPDM, for filling the dosing tank with liquid media
- With G 1” through-bolt for connection to the dosing tank (hole must be produced by the customer)
- Connecting pipe with DN 15 cementing connection

Fig. 12 Filling unit

13.8 Dissolving hopper

Product number: 96726979
- Dissolving hopper, PVC / EPDM, for washing powders into a 300-litre, 500-litre, or 1000-litre dosing tank
- Dosing tank connection: DN 40 through-bolt
- Water connection: G 5/4, with union nut and inlay for PVC pipe (cementing diameter: 25 mm)

Fig. 13 Dissolving hopper

13.9 Pump mounting set

- Set of screws for mounting a DDA, DDC, DDE, DDI, or a DMX 221 pump on a dosing tank.

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>98133793</td>
<td>Stainless-steel screws for mounting the pump on a 60 to 500-litre dosing tank</td>
</tr>
<tr>
<td>95730864</td>
<td>PP screws for mounting the pump on a 40 or 1000-litre dosing tank</td>
</tr>
</tbody>
</table>

13.10 Floor-mounting set

Product number: 98149921
- Set of 4 floor-mounting brackets with fixing screws for 60 to 500-litre dosing tanks

14. Disposal

This product or parts of it must be disposed of in an environmentally sound way. Use appropriate waste collection services. If this is not possible, contact the nearest Grundfos company or service workshop.

Subject to alterations.