

Easy Drink

Drinking trough

Manual / Assembly manual / Parts list

Original user manual

5540-9001-006EN-202309

September 2023

Table of Contents

1	General.....	3
1.1	Information about the document	3
1.2	Manufacturer address	5
2	Safety	6
2.1	Use as directed.....	6
2.2	Duty of care of the owner	7
2.3	Modifications made afterward	8
2.4	Explanation of the safety symbols / warnings used.....	9
2.5	General safety instructions and hazards.....	9
2.6	Personnel qualification	10
3	Description.....	11
3.1	Construction description	11
3.2	Technical specifications	12
3.3	Float	13
3.4	Circulation pipe	15
3.5	Special qualification of personnel	16
3.6	Safety instructions.....	16
3.7	Special hazards	16
3.8	Transport equipment.....	16
3.9	Removal of packaging material.....	16
4	Assembly and installation.....	17
4.1	Special qualification of personnel	17
4.2	Safety instructions.....	17
4.3	Special hazards	17
4.4	Assembly preparations	18
4.5	Assembling the standard drinking trough.....	19
4.5.1	Mounting on the floor	19
4.5.2	Wall Mounting	22
4.6	Assembly with optional circulation pipe	25
4.7	Removal of assembly materials after completing assembly.....	27
5	Maintenance.....	28
5.1	Safety instructions for maintenance	28
5.2	Inspections and preventive maintenance.....	28
5.3	Cleaning the drinking trough.....	28
6	Parts	29
7	Appendix.....	31
7.1	Abbreviations	31

1 General

1.1 Information about the document

We reserve the right to make changes to data and images to reflect the further technical development of the installation.

Reprinting, translations and reproductions in any form, even in part, require the written permission of the manufacturer.

Abbreviations, units, specialist terms column "Failures", special jargon or terminology commonly used in the industry, which are used in this manual, are explained in more detail in the "Appendix" section.

This manual is part of the scope of delivery.

- The manual must be kept within easy reach and must also be kept with the device after sale.
- This manual is not updated. The current status can be obtained from the dealer or directly from the manufacturer.

Target group

This manual contains information for the following target groups:

Information (see chapter)	Target group			
	Transporter	Installer	Maintenance personnel	User
Transport and storage	x			
Assembly and installation		x		
Commissioning		x	x	x
Operation and control		x		x
Maintenance			x	x
Repair		x		x
Decommissioning		x		



For information on personnel qualifications, see chapter: Safety / Personnel qualifications

Purpose of the manual

The following topics are described in detail in this manual:

- Assembly of the Easy Drink
- Commissioning and maintenance of the Easy Drink

Structure of the manual

It has a modular structure and only applies to the stated product.

Further information on the product and components related to the product can be found in the respective manuals.

This particularly applies to safety instructions!

Layout elements

Icons used



Note

This signal word marks important information about the product and the environment.



This pictogram refers to an information source.
(Chapter, manual, internet, etc.).

70 .. **-90** .. -000 When specifying a manual number, the middle 4 digits determine the respective language:

	Language		Language		Language
-9000-	German	-9013-	Dutch	-9032-	Serbian
-9001-	English (England)	-9015-	English (North America)	-9034-	Slovak
-9002-	French (France)	-9016-	Polish	-9035-	Chinese
-9003-	Italian	-9018-	Japanese	-9036-	Lithuanian
-9004-	Romanian	-9021-	Danish	-9038-	Portuguese (Brazil)
-9005-	Spanish (Spain)	-9022-	Hungarian	-9039-	French (Canada)
-9007-	Swedish	-9023-	Czech	-9040-	Latvian
-9008-	Norwegian	-9024-	Finnish	-9041-	Estonian
-9009-	Russian	-9025-	Croatian	-9043-	Spanish (Central America)
-9010-	Greek	-9027-	Bulgarian	-9050-	Vietnamese
-9012-	Turkish	-9029-	Slovenian		

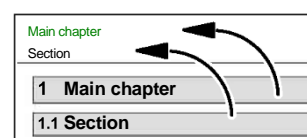
Not all the languages indicated may be available.



A correction bar in the margin indicates a change from the previous edition.

Header

The header gives information on each page about the overarching subject of the page content.



1.2 Manufacturer address

Royal de Boer Stalinrichtingen B.V.
Vestaweg 5
8932 AV Leeuwarden
The Netherlands

 +31 (0)58 284 33 00
 +31 (0)58 284 33 01
 info@royaldeboer.com
 www.royaldeboer.com

2 Safety

2.1 Use as directed

The product described is designed for use in agricultural operations.

It is intended exclusively for the provision of fresh drinking water to dairy cows aged 6 months and over.

Applications not stated here are not covered by the use as directed and are therefore regarded as unauthorised use!

In this regard, we would like to point out that it is not recommended:

- To use the product for other animal species than those described.

The manufacturer/dealer is not liable for any damage resulting from this. The risk is borne exclusively by the user.

Use as directed also includes adhering to the manual and following the inspection and maintenance conditions.

- The manufacturer wishes to expressly indicate that only original parts and original accessories suitable for the product have been tested and approved.
- The installation or use of third-party products can negatively affect the characteristics of the original parts and lead to dangers for people and animals.
- The manufacturer will not accept any liability for damages to people, animals and products caused by the use of third-party products.

2.2 Duty of care of the owner

The product was constructed and manufactured taking into account a hazard analysis and after the careful selection of the harmonised standards to be fulfilled, as well as other technical specifications. This ensures a high degree of safety.

However, this safety can only be achieved in practice if all necessary measures are taken. It is the specific responsibility of the operator to plan these measures and to check that they are implemented.

The operator must guarantee the following:

- Everyone who performs work or activities with the product must read the manual (especially the safety instructions and warnings) carefully and confirm with his or her signature that he or she has understood it and will act accordingly!
- The manual must always be available in legible condition and in its entirety at the place of use of the product.
- Anyone performing work on the product must be able to consult the manual at any time.
- The instructions in the chapter “Basic safety instructions” must be observed.
- The legal requirements must be fulfilled.
- Special operating instructions tailored to the farm must be drawn up, which again explicitly take the safety aspects into account.
- The product may only be used as directed.
- The product may only be operated in perfect, properly functional condition. In particular, the safety devices must be checked regularly for proper functioning.
- The work to be carried out may only be performed or implemented by a suitably qualified person!
- This personnel must be instructed regularly in all applicable matters of operational safety and environmental protection and must be familiar with the manual and especially the safety instructions it contains.
- The necessary personal protective equipment for assembly/mounting, operation, maintenance and repair personnel must be available and used.
- Unauthorised persons (for example children) must not be in the danger zones.

2.3 Modifications made afterward

Changes you make to the product may negatively affect its safety, service life or functioning.

Changes that are not described in the product documentation are not permitted.

For safety reasons, do not make any changes yourself!

Unauthorised own modifications to the product will void any warranty claims and the accompanying declaration of compatibility and installation.

2.4 Explanation of the safety symbols / warnings used

Safety symbols indicate the importance of the texts shown next to them.

The design of the warnings is in accordance with ISO 3864-2 and ANSI535.6.

Safety symbols and signal word



Warning!

This signal word indicates immediate hazards that could lead to serious injury or death.

Attention!

This signal word points out dangerous situations that can lead to material damage or malfunctions.

2.5 General safety instructions and hazards



Note

Warnings about residual dangers are given in the relevant chapters!

- The operation and maintenance of equipment for livestock farms involves risks. For your own safety, please read the manual carefully (especially the “Safety” chapter) and follow the instructions!
- Do not remove safety devices (danger of injury)!
- If used in combination with third-party products, also observe the warnings in the safety information sheets and operating instructions from the manufacturer of the product!
- Do not stand under suspended loads.
- During assembly/mounting, operation, maintenance and repair work, there is a risk of drowning in the drinking trough.
 - Make sure two people are always present when working on the water trough.
 - Provide a non-slip surface so there is less risk of slipping.



Warning!



Drowning hazard!

Risk of drowning.

- Keep unauthorised persons away from the drinking trough

2.6 Personnel qualification

Anyone who has to carry out work or activities with this product must read the manual carefully, understand it and act accordingly!

- All work on electrical equipment and electrical connections may only be done by trained electricians.
- All work on the water supply line may only be done by trained personnel.

In addition, the following work requires special qualifications:

- Transport
- Cleaning
- Assembly/mounting
- Maintenance/service
- Troubleshooting
- Repairs



Note

If special qualifications are required for the work, these are described in the relevant chapters!

3 Description

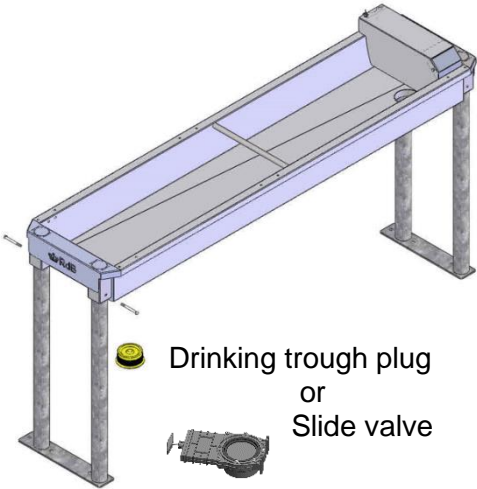
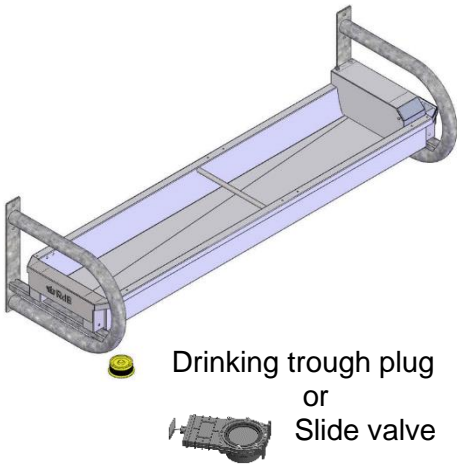
3.1 Construction description

The Easy Drink is a flat drinking trough made of stainless steel with a V-shaped bottom with an incline. The model of the water reservoir is easy to clean with very little water loss.

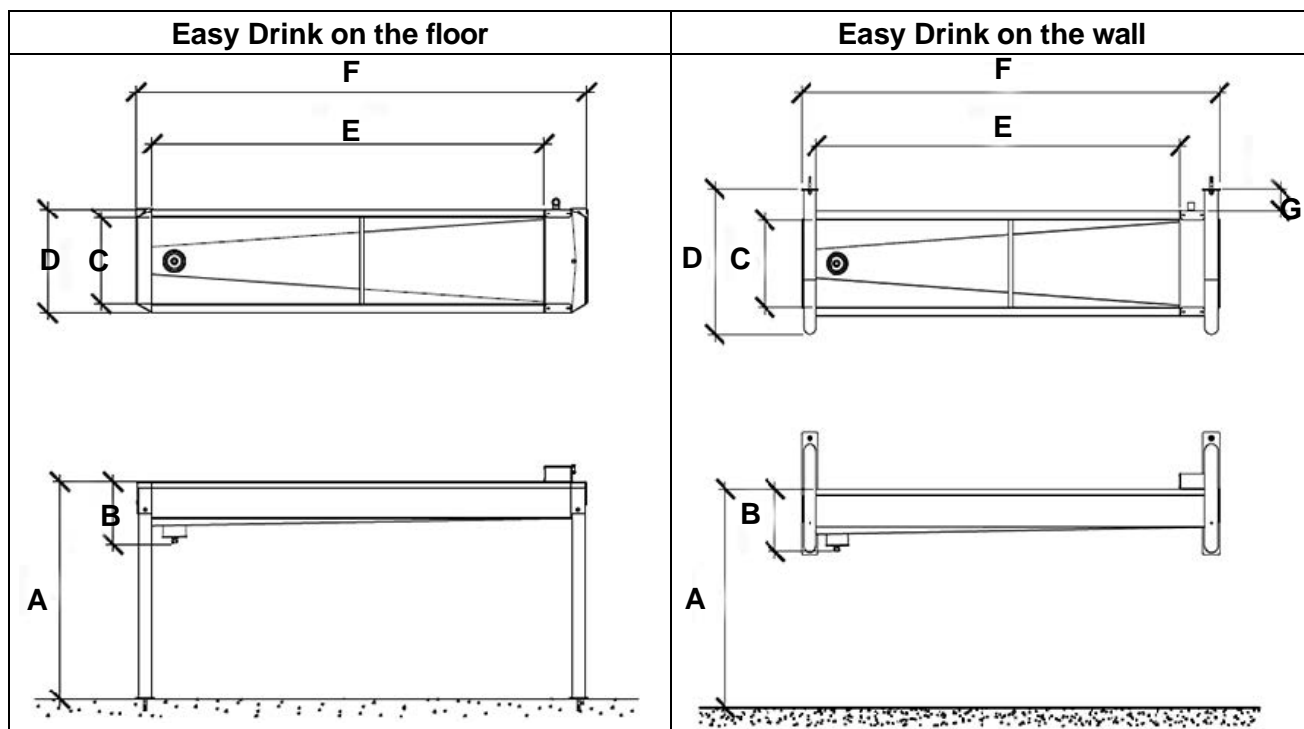
Characteristics

- Float with high capacity.
- Outlet of 10 cm [3.9"] diameter.
- Different mounting options.
- Capacity of 25 to 200 litres [19 to 39 gal] of water.
- An optional circulation pipe is available as frost protection for the trough.
- Available with plug or slide valve.
- The float cover can be fitted onto troughs that are already in use.

Available types

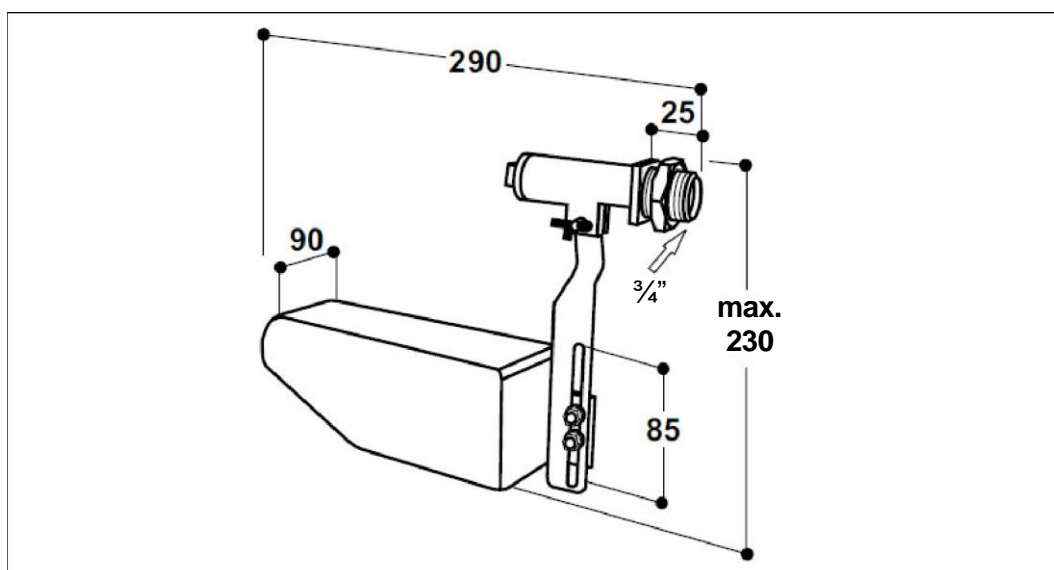
Easy Drink with stands	Easy Drink with wall mount
 <p>Drinking trough plug or Slide valve</p>	 <p>Drinking trough plug or Slide valve</p>
<ul style="list-style-type: none"> • Type ED-50 with stands • Type ED-100 with stands • Type ED-190 with stands • Type ED-350 with stands 	<ul style="list-style-type: none"> • Type ED-50 with wall mount • Type ED-100 with wall mount • Type ED-190 with wall mount • Type ED-350 with wall mount

3.2 Technical specifications



	Pos	ED-50 Vloer / Wand	ED100 Vloer / Wand	ED-190 Vloer / Wand	ED-350 Vloer / Wand
With plug					
On floor:		5540-3056-050	5540-3056-100	5540-3056-190	5540-3056-350
Wall mounted:		5540-3057-050	5540-3057-100	5540-3057-190	5540-3057-350
With gate valve					
On floor:		5540-3066-050	5540-3066-100	5540-3066-190	5540-3066-350
Wall mounted:		5540-3067-050	5540-3067-100	5540-3067-190	5540-3067-350
Height 6 - 12 mnd	A	50 - 60 cm	50 - 60 cm	50 - 60 cm	50 - 60 cm
Height 12 - 22 mnd		60 - 70 cm	60 - 70 cm	60 - 70 cm	60 - 70 cm
Height 22 - 24 mnd		70 - 80 cm	70 - 80 cm	70 - 80 cm	70 - 80 cm
Height > 24 mnd		80 - 100 cm	80 - 100 cm	80 - 100 cm	80 - 100 cm
Trough height	B				
With plug		20 cm	22 cm	24 cm	27 cm
With gate valve		27 cm	29 cm	31 cm	34 cm
Trough width inside	C	39,5 cm	39.5 cm	39.5 cm	39.5 cm
Total width	D				
On floor:		47,5 cm	47,5 cm	47,5 cm	47,5 cm
Wall mounted:		65,5 cm	65,5 cm	65,5 cm	65,5 cm
Trough length	E	37.5 cm	88 cm	175 cm	340 cm
Total length	F	63.5 cm	114 cm	201 cm	366 cm
Distance between trough and wall	G	10 cm	10 cm	10 cm	10 cm
Weight on floor:		43.5 kg	49.0 kg	58.5 kg	77.5 kg
Wall mounted:		43.0 kg	48.5 kg	58.0 kg	77.0 kg

3.3 Float



- High-quality float, water flow up to 40 l/min [10.6 gal/min].
- For installation in drinking troughs
- Connection $\frac{3}{4}$ " male thread
- The supply line must be at least $\frac{3}{4}$ "
- Up to maximum 5 bar [75 psi] water pressure
- With stainless steel piston

Water pressure and supply

- Minimum water pressure 0.5 bar, maximum 5 bar
- Minimum water pressure 7.5 psi, maximum 75 psi
- Water supply approx. 40 l/min. at 5 bar
- Water supply approximately 10.6 gal/min. at 75 psi

3.4 Circulation pipe



The optional circulation pipe prevents the water in the drinking trough from freezing by circulating water through the drinking trough. The supply pipe is mounted before the float.

The circulation pipes are available as types 50, 100 and 190.
Type 190 is also suitable for the Easy Drink 350.

4 Transport and storage

4.1 Special qualification of personnel

Transport may only be done by qualified persons observing the safety instructions.

- National driving licences for self-propelled work machines, stacking machines and other floor transport vehicles.

4.2 Safety instructions

To avoid material damage and/or life-threatening injuries to persons, the following points must be observed at all times:

- For transport, only the lifting and handling equipment indicated here may be used at the fastening points provided.
- Also read the chapter "Safety".

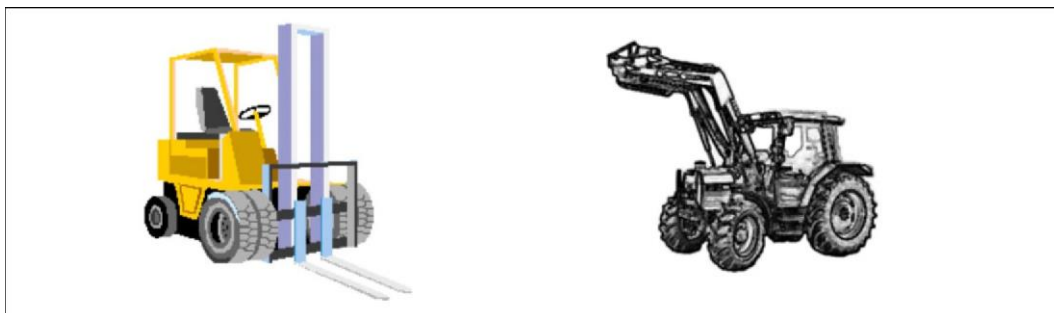
4.3 Special hazards

- Protruding sharp edges can cause cuts.
- Suspended loads can fall, in which case there is a danger to life - do not stand under suspended loads!
- Parts stacked too high can fall down.
- If lifting devices other than those specified are used, this may result in serious material damage and/or life-threatening injuries to persons.

4.4 Transport equipment

Make sure you have suitable means of transport at your disposal. For transport, use:

- Forklift
- Front loader



4.5 Removal of packaging material

After unpacking, handle the packaging material properly and remove it properly according to the applicable local regulations for waste disposal and/or recycling.

5 Assembly and installation

If necessary, contact your nearest authorised dealer.

5.1 Special qualification of personnel

Assembly may only be done by suitably qualified persons observing the safety instructions.

- When assembling the water pipe, ensure the pipes are installed by a plumber.
- Have the concrete floor designed by a structural engineer.

See also the chapter “Personnel qualification”.

5.2 Safety instructions

To avoid material damage and/or life-threatening injuries to persons, the following points must be observed at all times:

- Check for any transport damage before assembly. Do not use damaged components!
- Only use the specified special tools for assembly.
- In particular, be careful to adhere to the specified tightening torques.
- All electrically conductive components with which animals could come into contact must be connected to each other and to the installation's safety earth wire by means of additional equipotential bonding.
- Also read the chapter “Safety”.

5.3 Special hazards

- Remove water pressure from the system before assembly activities.
- Loose parts lying on top of each other can slide off and fall down.
- There is a risk of injury from components with sharp edges that are still open and accessible.
- Defective pressure pipes and connections can lead to serious bodily injuries.
- In case of pipes assembled improperly, escaping media could cause burns and/or injuries.

Working stainless steel

Attention!

Corrosion hazard!

Do not work stainless steel with tools previously used for steel!

- ▶ Only use special tools (saw blades, grinding wheels, etc.) when working on stainless steel!

Attention!

Corrosion hazard!

Metal dust deposited on the stainless steel surfaces can lead to corrosion!

- ▶ Prevent flying sparks from striking stainless steel surfaces or other sensitive components!



Attention!

- ▶ Grease all stainless steel screws and nuts to ensure they do not seize when tightened!



5.4 Assembly preparations

To be provided by the customer

- Screwdriver
- Hammer
- Drill
- Knife
- Measuring tape
- Open end wrenches
- Pipe wrench
- Teflon tape

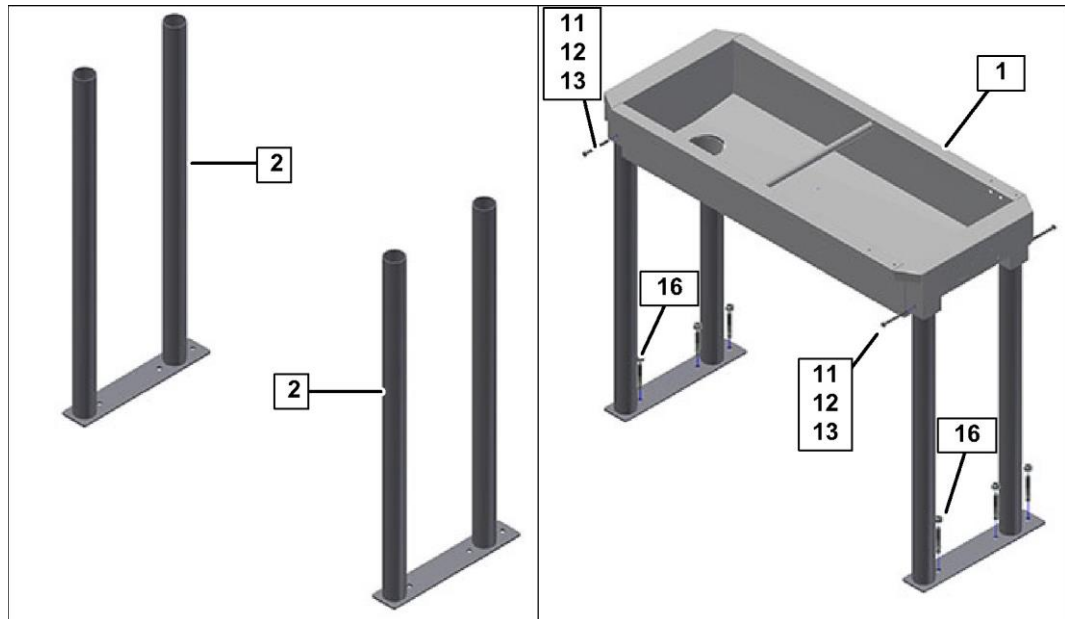
5.5 Assembling the standard drinking trough



Note

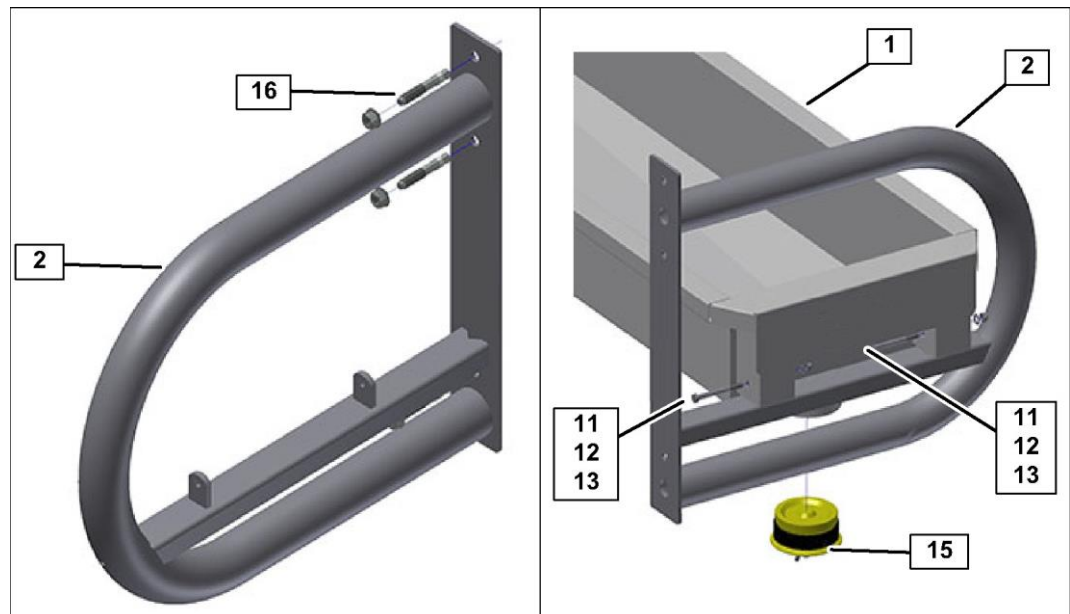
The Easy Drink can be assembled with the water connection on the left on the right or in the middle of the drinking trough.
Also with the optional circulation pipe. The illustrations in this manual show assembly on the right-hand side.

5.5.1 Mounting on the floor



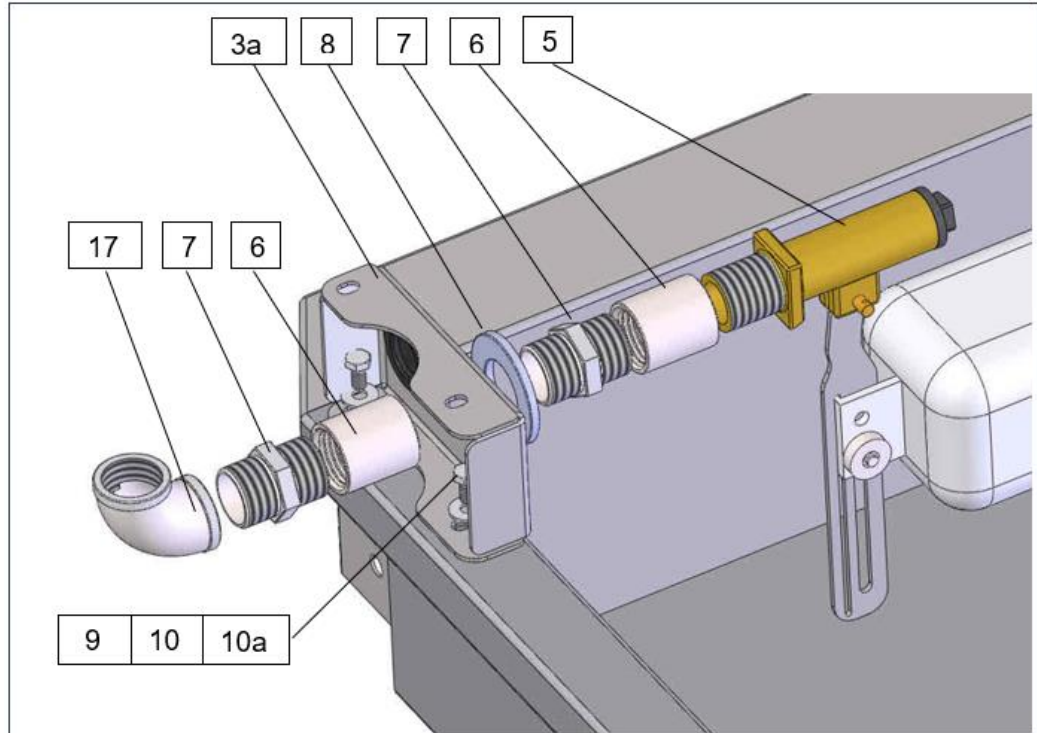
- Determine the drinking height and place the stands (2).
- Adjust the stand (2) to the desired height, if necessary.
- Place the drinking trough (1) on the stand (2) and determine the holes to be drilled.
- Drill the holes in the stand (2).
- Place the stands (2) in the correct position and fasten them with the anchor bolts (16).
- Mount the drinking trough on the stand using the bolts, lock nuts and washers (11, 12, 13).

5.5.2 Mounting on the wall



- Determine the drinking height and fasten the wall mounting brackets (2) at the desired location and height with the anchor bolts (16).
- Place the drinking trough (1) on the wall mounting brackets (2) and mount with the bolts, lock nuts and washers (11,12,13).

5.5.3 Assembling the float and float cover

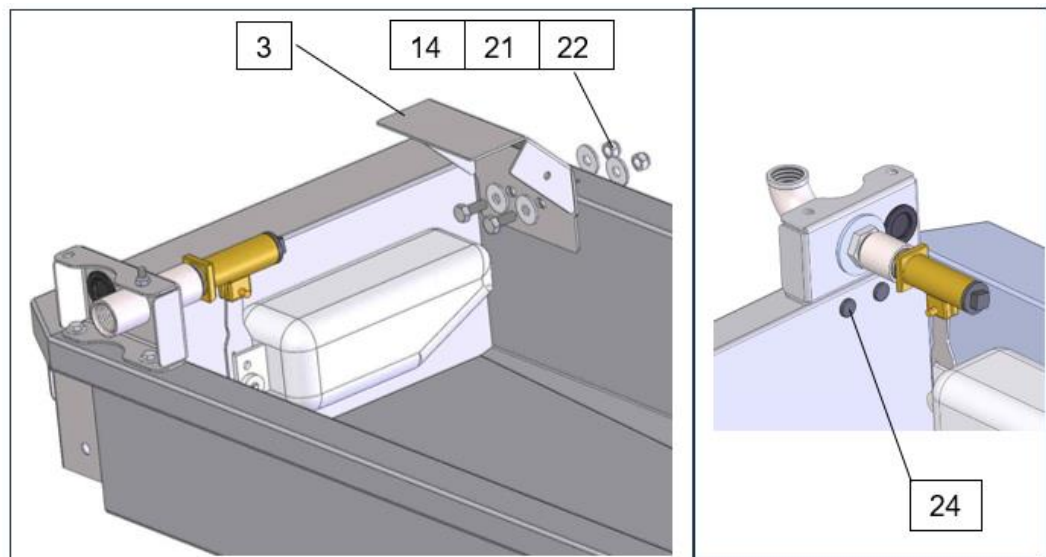


- Attach the float cover mount (3a) to the trough using the bolts (9) and lock nuts (10) and plain washers (10a).
- Attach the float (5) to the float cover mount (3a) with the socket (6), male union (7), washer (8) and the socket (6) or elbow (17).

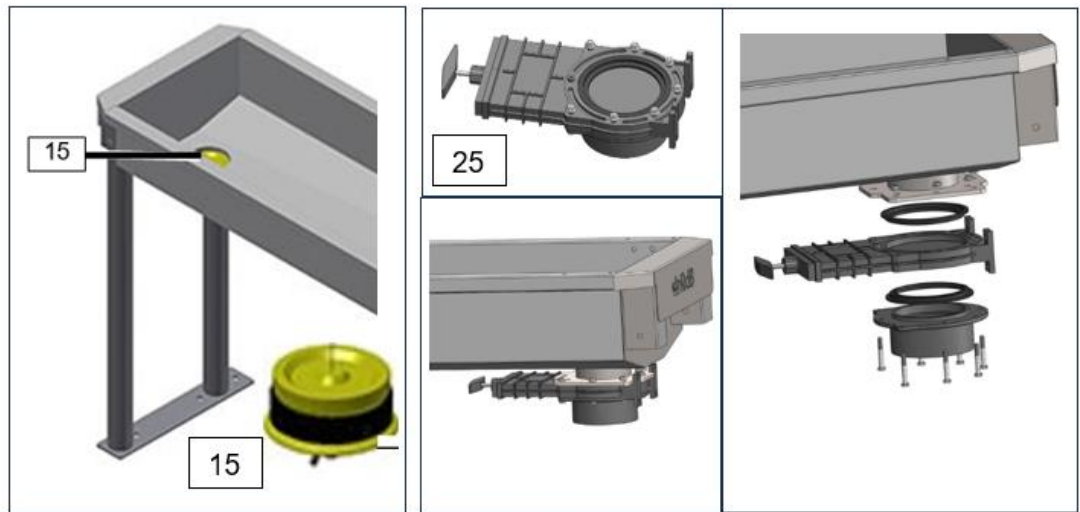


Note

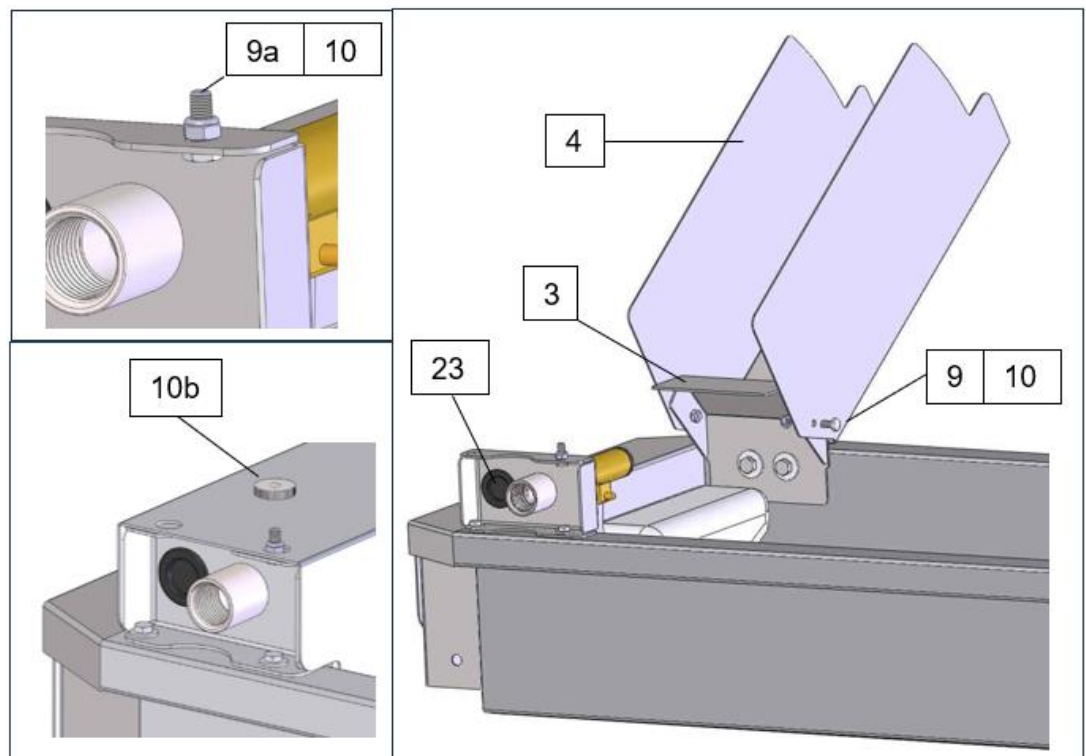
Use a sealing medium to seal the pipework.



- Fit the hinge section (3) to the water trough with M8x20 bolts (14), lock nuts (21) and plain washers (22) on both sides.
- Fit the two blanking grommets (24)

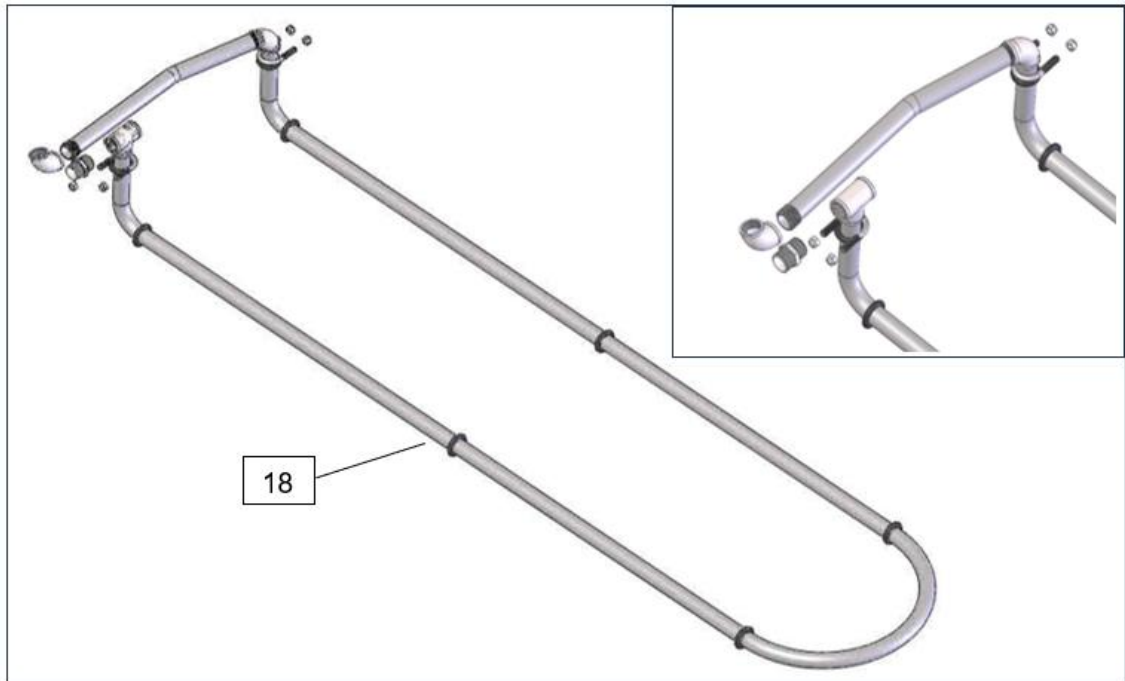


- Water trough plug: -Place the water trough plug (15) in the outlet opening of the water trough. Tighten it by turning the butterfly nut clockwise.
- Slide valve: -Remove one of the two outlets from the slide valve (it's unnecessary).
-Fit the valve with the seal against the flange of the water trough.
-When positioning the trough, leave sufficient space below it in connection with, for example, a slurry scraper.
- Connect the supply line to the float (5).
- Check the water level and the sealing of the pipework. If necessary, set the float (5) to the desired height.

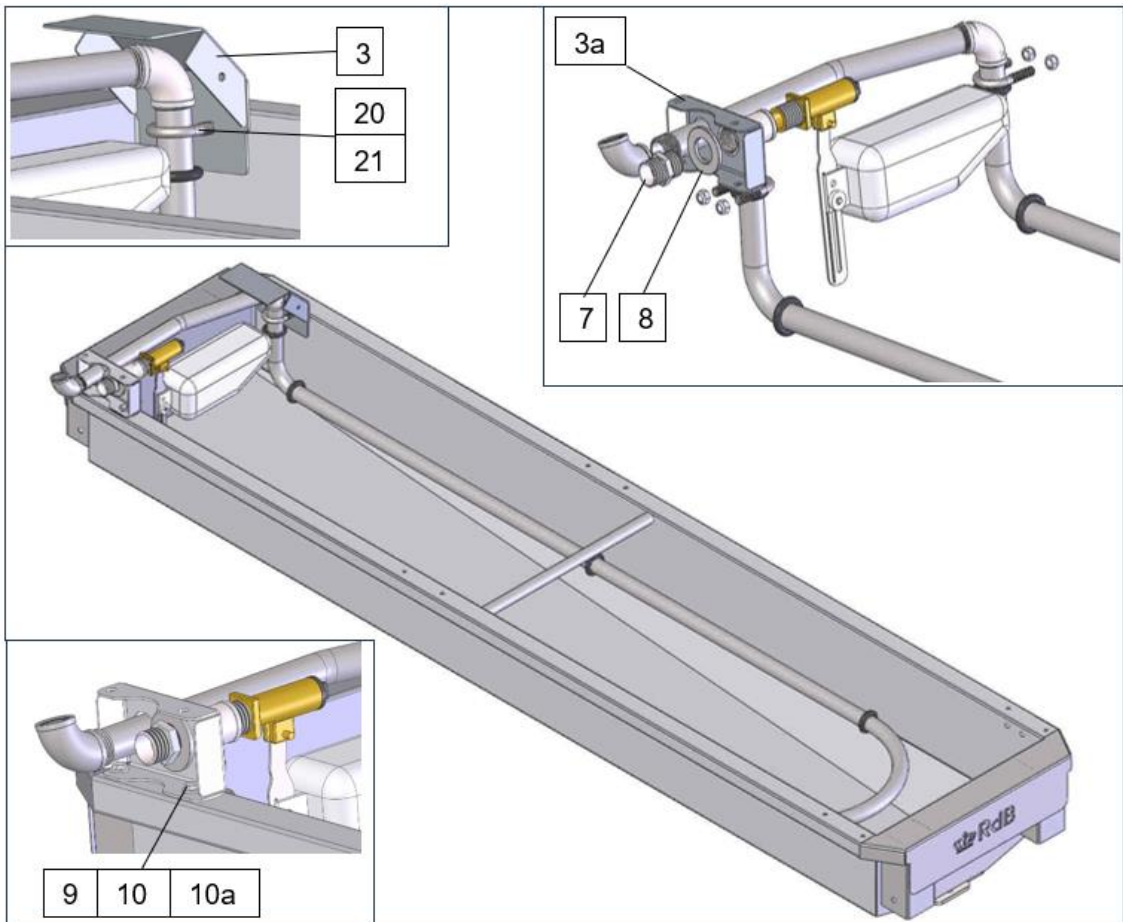


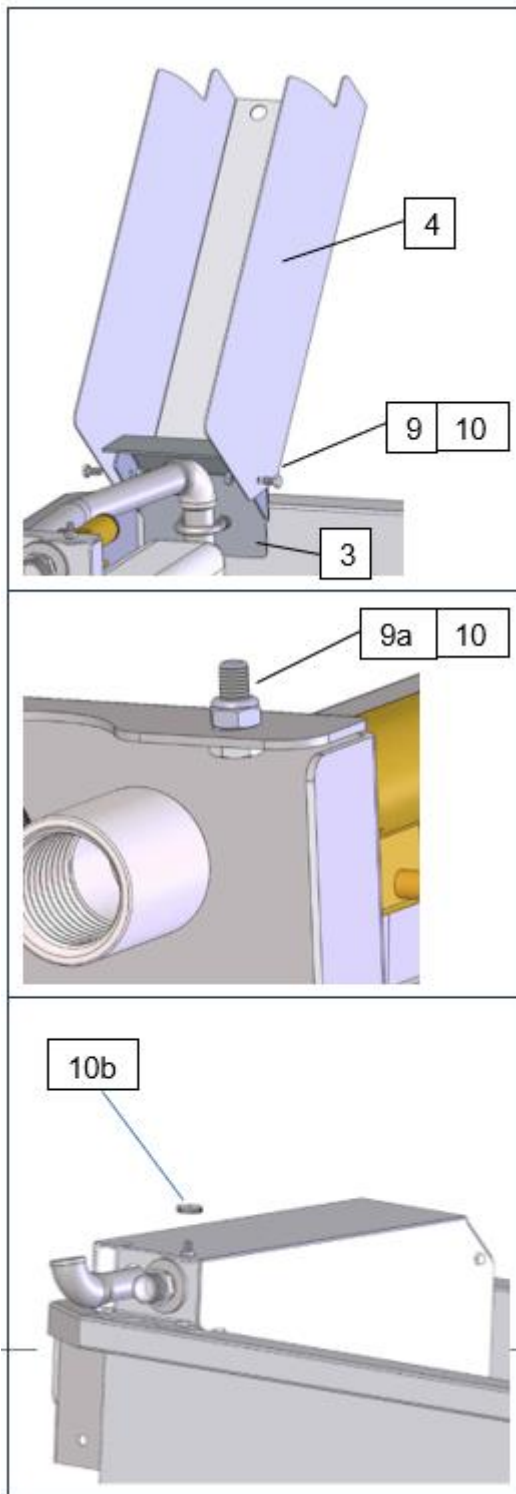
- Attach the float cover (4) to the hinge section (3) with two M6x12 bolts (9) lock nuts (10).
- Fit one M6x16 bolt (9a) and a lock nut (10) to the catch side of the cover.
- Close the float cover and fit the knurled nut (10b).

5.6 Assembly with optional circulation pipe



- Pre-assemble circulation pipe (18) including fixing bracket (3a) and float.
- Place the circulation pipe (18) in the drinking trough (1) and mount it with wire brackets (20) and nuts (21). Fit the hinge section (3) at the same time.
- Fasten the fixing bracket (3a) with bolts (9), plain washers (10a) and lock nuts (10).





- Fasten the float cover (4) onto the hinge section (3) with bolts (9) and lock nuts (10).
- On the closing side of the cover mount a screw M6x16 (9a) and lock nut M6 (10).
- Connect the supply pipe to the heat conduction pipe
- Check the water level and the sealing of the pipework. If necessary, set the float (5) to the desired height.
- Close the float cover and screw the knurled nut (10b) in place.

5.7 Removal of assembly materials after completing assembly

Any assembly material that is not required should be handled professionally and removed properly in accordance with the applicable regulations for waste disposal and/or recycling.

6 Maintenance

If necessary, contact your nearest authorised dealer.

6.1 Safety instructions for maintenance

To avoid material damage and/or life-threatening injuries to persons, the following points must be observed at all times:

Attention!

Only use original spare parts/original wear parts/original accessories.

- ▶ The installation or use of third-party products can negatively affect the characteristics of the original parts and lead to dangers for people and animals.
- ▶ The manufacturer will not accept any liability for damages to people, animals and products caused by the use of third-party products.

- All maintenance steps to be taken must strictly be performed in the order specified.
- The maintenance work specified in the manual must be performed within the stipulated intervals.
- Carry out maintenance work only with the tools specified for this purpose.
- Replace any components that are not in perfect working order immediately.
- Also read the chapter "Safety".

Check the following points after maintenance:

- All previously loosened screw connections must be retightened.
- All previously removed guards, covers, screens, and filters must be reinstalled correctly.
- Safety devices must function properly again.
- All tools, materials and other equipment used have been removed from the work area.
- After maintenance or replacement of parts, check the function.

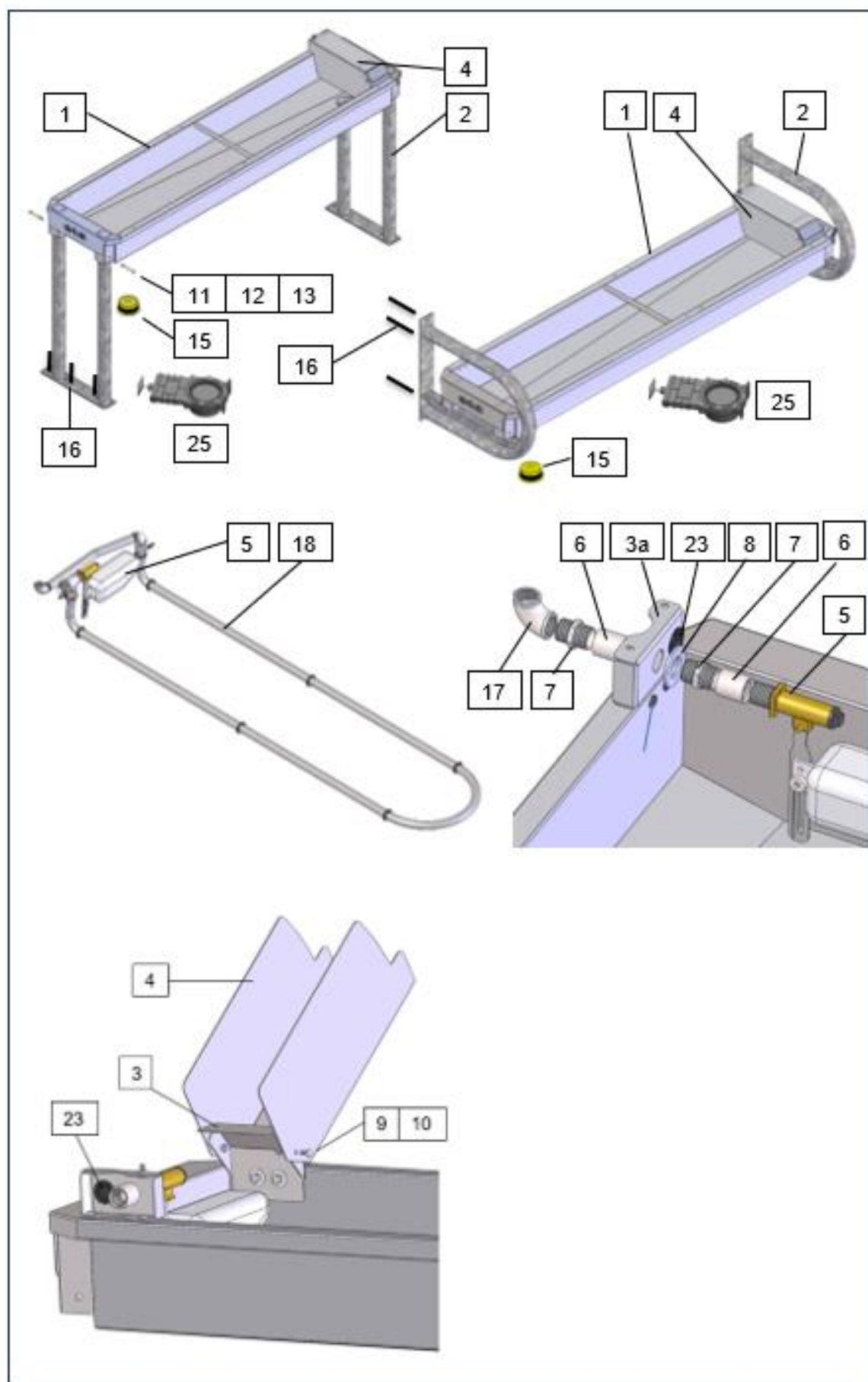
6.2 Inspections and preventive maintenance

Daily	<ul style="list-style-type: none"> • Remove feed residues from the trough.
Weekly	<ul style="list-style-type: none"> • Clean the drinking trough.
Annually	<ul style="list-style-type: none"> • Check the float chamber before winter begins.

6.3 Cleaning the drinking trough

- Brush the water trough clean with a firm bristle brush.
- Remove the plug or open the valve to allow water and dirt to drain away.
- Put the plug back in or close the valve.

7 Parts



Pos.	Material no.	Description		Quantity
1	5540-3059-050	Shallow drinking trough Easy Drink type 50	SSSt.	1
	5540-3059-100	Shallow drinking trough Easy Drink type 100		
	5540-3059-190	Shallow drinking trough Easy Drink type 190		
	5540-3059-350	Shallow drinking trough Easy Drink type 350		
2	5540-3155-017	Easy Drink stand		2
	5540-3155-021	Easy Drink wall mounting bracket		2
3	5540-3155-052	Hinge section	SSSt.	1
3a	5540-3155-051	Float cover mount	SSSt	1
4	5540-3155-050	Float cover	SSSt.	1
5	5540-3497-001	Float Suevia 700 3/4" (20 mm) 40 l/min 5 bar		1
6	5585-7403-005	Socket - 3/4"	SSSt.	2
7	5585-7203-005	Male union - 3/4"	SSSt.	1
8	0026-5756-300	Washer	28.7x50.0x4.0 SSSt.	1
9	5585-2406-012	Hex cap screw M6x12	SSSt.	4
9a	5500-6000-074	Hex cap screw M6x16	SSSt	1
10	5500-6000-086	Hex lock nut M6	SSSt.	5
10a	5500-6000-129	Plain washer M6	SSSt	2
10b	5540-3155-065	Knurled nut (10b).	SSSt	1
11	5585-0108-080	Hex bolt M8x80 Duplex		4
12	5585-1108-015	Lock nut M8 Duplex DIN 980V-8		5
13	5585-3008-005	Washer M8 Duplex		4
14	0019-6903-300	Hex cap screw M8x20		1
15	5540-3455-005	Drinking trough plug	Ø 100mm	1
16	5580-4512-079	Anchor bolt express M12x86		6
17	5585-7003-005	Pipe bend 0,75" 90°		1
18	5540-3169-125	Circulation pipe type 50 cpl.		1
	5540-3169-130	Circulation pipe type 100 cpl.		
	5540-3169-135	Circulation pipe type 190 cpl.		
19				
20	5585-1908-005	Wire bracket 0,75" ,M8x60		2
21	5500-8000-095	Hex lock nut M8		6
22	5500-8000-154	Plain washer M8		4
23	5540-3155-063	Cable bushing		1
24	5540-3155-064	Sealing plug for hole 9mm.		2
25	5540-2943-003	Gate valve		1

8 Appendix

8.1 Abbreviations

Units	
min.	Minute
" (in)	Inch (= 25.4 mm)
mm	Millimetre
cm	Centimetre
g	Gram
kg	Kilogram
lbs	Pound (weight)
l	Litre
gal	Gallon (volume)
bar	Bar (pressure)
psi	Pounds per square inch (pressure)



Where cows feel at home

Vestaweg 5
8932 AV Leeuwarden
The Netherlands

T +31 (0)58 284 3300
E info@royaldeboer.com
W www.royaldeboer.com