

## Livestock Watering Systems

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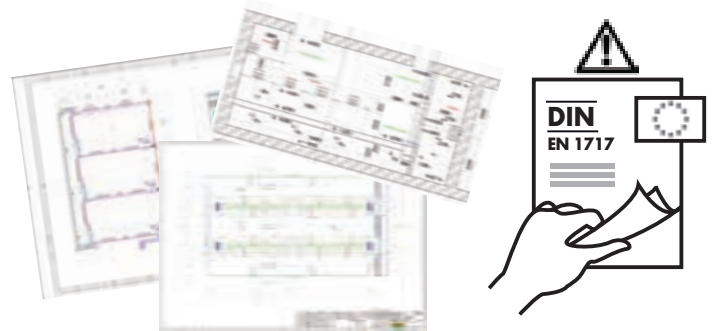
# Information for planning and execution:

Water is the most important and cheapest food for your animals. For this reason good quality water should always be provided in sufficient quantity. During the planning period various aspects and legal requirements have to be observed. The right choice of the drinker and an appropriate location are important basic requirements for a good supply and therefore healthy animals. Equally important is to ensure a proper and safe installation.

We advise you in the selection of drinkers, to inform yourself about its operation and the right location to install. Your installer advises you regarding the correct installation materials and correctly connects your drinker to the water and main supply according to the norm.

The following standards and specifications should be observed:

- Electrotechnical standards (low voltage directive, earthing regulations, electrical installation regulations in agriculture VDE 0105-115, requirements of energy saving law)
- Drinking water ordinance and regulations of the local water suppliers (DIN 1988, EN 1717)
- National and local safety regulations
- Ordinance on Industrial Safety and Health (VSG 1.1)
- Regulations for fire prevention and insurance guidelines



## Criteria for selection of the adequate water trough

- Is the water trough suitable for the animal type and for the age of the animal? ①
- Is the water amount per minute, the water volume and the number of drinking positions consistent with the needs of the animal or animal group? ②
- Is the water trough suitable for the type of penning (single or group)?
- Is the water trough heatable which means suitable for installation in cold or open housing?

## Criteria for correct installation

- The height of the water trough has to be adjusted to the size of the animal ③+④
- Keep away from the feeding site in order to avoid that the feed will get wet and the troughs will get soiled with the feed ⑦+⑧
- Choose installation site in free-stall barns so that drinking animals do not obstruct other animals ⑦+⑧
- Installation of the troughs needs to be secure from damages (by kicks, or crowding) ⑤+⑥
- Install water and electrical lines secure against browsing damages
- Locate so that soiling with excrements is not possible ⑨ + ⑩

**Optimum water troughs for cattle, sheep, goats and horses** ①

**Open Water Troughs**  
"drinking from open water surfaces in nature is typical for pasture livestock"  
**better than**

**Float Valve Bowl**  
"ideal for young stock and sensitive animals"  
**better than**

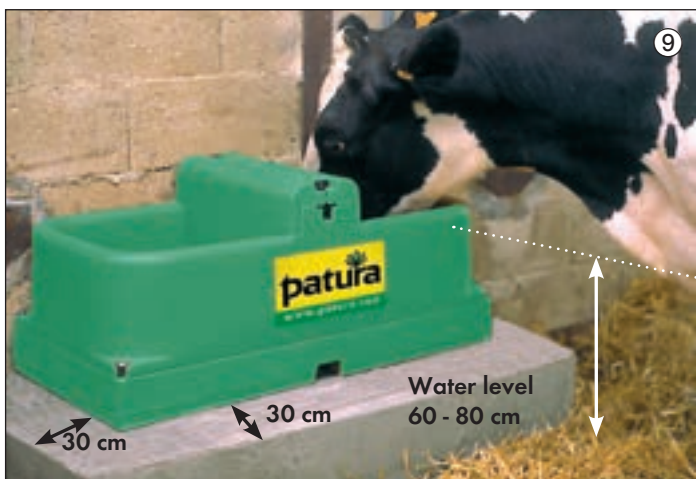
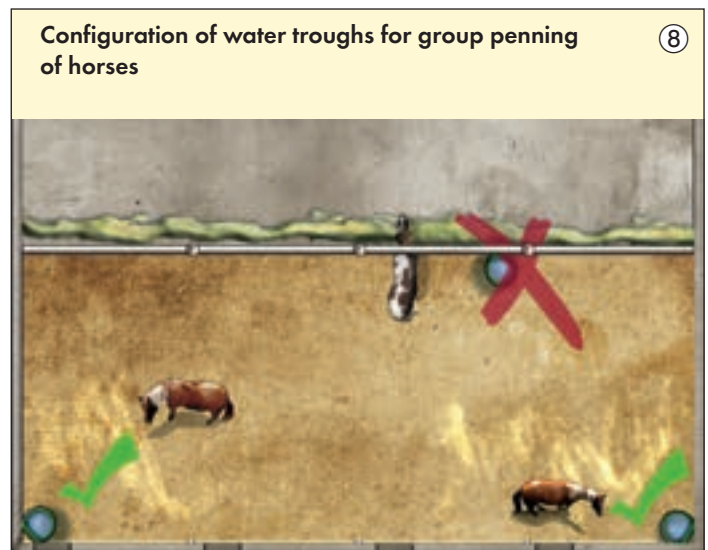
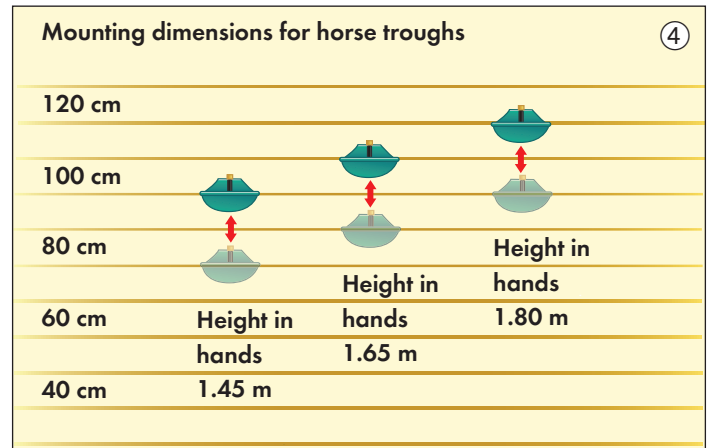
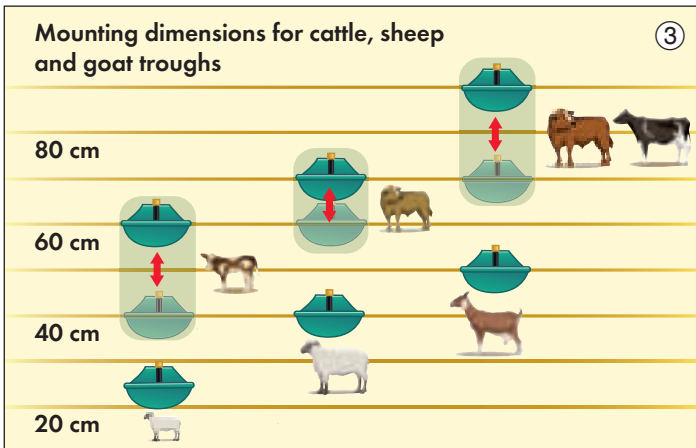
**Pipe Valve Bowl**  
"suitable for all types of animals"  
**better than**

**Nose-Paddle Bowl**  
"rugged, more difficult to activate, for fattening animals"

**Daily water requirement for cattle, sheep, goats and horses** ②

Cattle		60 l - 180 l
Cattle, 1 year and older		25 l - 70 l
Cattle, under 1 year		15 l - 30 l
Calves up to 6 months		5 l - 25 l
Sheep/Goats		2 l - 12 l
Large horse in pasture Mare, lactating		15 l - 60 l
Foal, 200 kg		15 l - 20 l





A water trough or ball waterer should be mounted on a raised concrete platform, each side of which is 30 cm wider than the drinker itself.

Without electricity, without gas

The advantages:



Plastic float valve for trouble-free operation with all water types



After opening the inspection lid the float can be easily adjusted



Drain plug - for easy draining and cleaning



Sturdy and especially well insulated housing



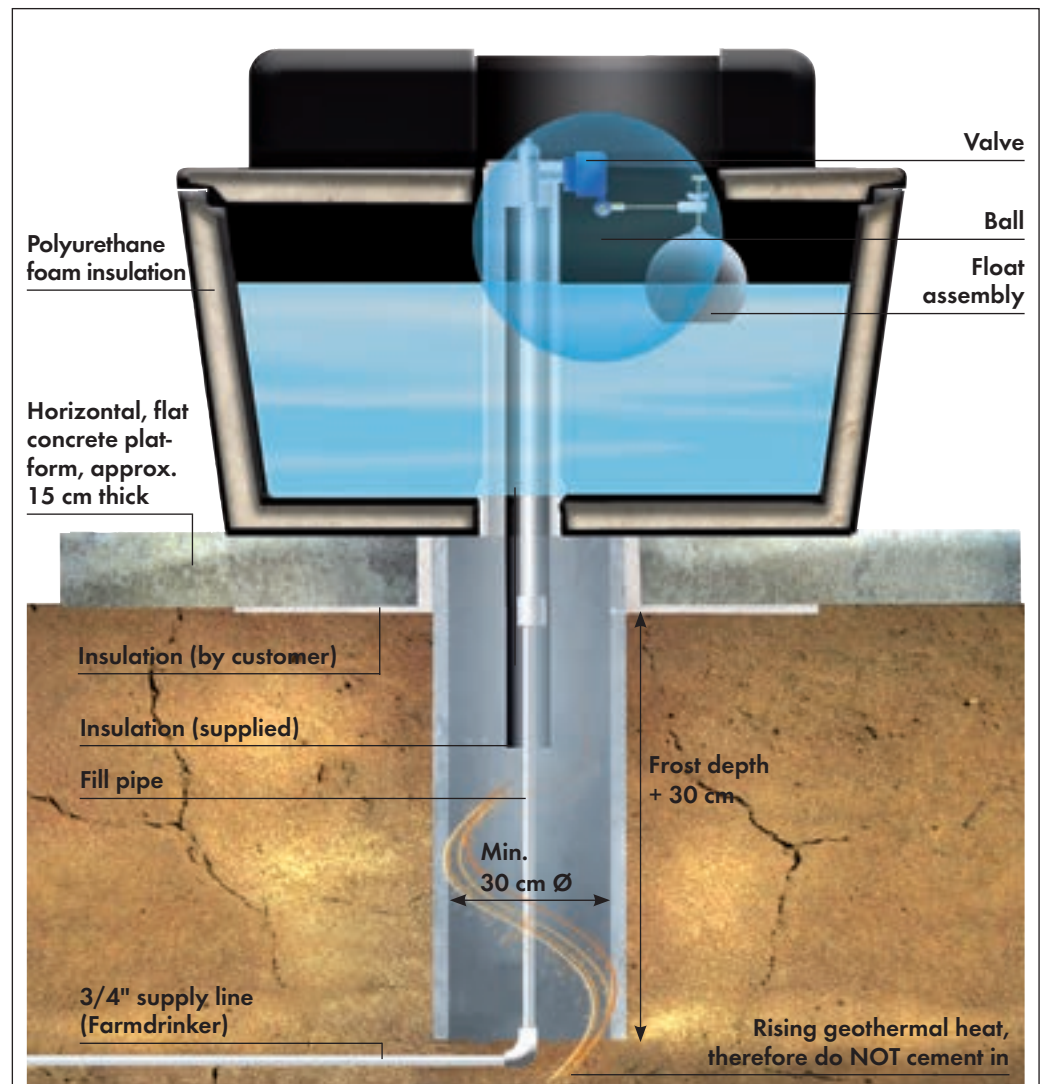
The valve is low-maintenance and very reliable

# Energy Free Frost-Protected Ball Waterers

## How does a ball waterer operate?

Water comes from the ground at a temperature of about 10 °C and fills the drinking containers until the balls seal off the drinking holes. Whenever animals drink, the float valve allows the consumed water to be replaced. The energy of the replacement water flowing in keeps the water warm when it is cold, and cool when it is hot. By means of the special ball-valve system, and without any additional power requirements, fresh, clean water which is free from algae, is provided at both -30 °C as well as +30 °C.

- While the animal is drinking, the ball rolls away
- Water supply must come from below frost level
- Water pressure: 1 to 5 bars
- A minimum of 5 animals guarantees frost-free operation down to -15 °C, or with 15 animals down to -40 °C
- Prepared for connection to 3/4" water line (external thread)
- The ball waterer should be positioned, slightly raised, on a 15 cm thick concrete platform, each side of which is 30 cm wider than the drinker itself
- Large drain openings allow regular, quick and complete cleaning of the trough



Cross-section of concrete platform, fill pipe and supply line for Farmdrinker  
Note: The shaft for the fill pipe should not be insulated from the earth at the lower level





Type	Ref.	Size D x W x H (cm)	Description
<b>Farmdrinker 1 ball</b> Capacity: 57 l, 15 - 25 animals, water flow: 40 l/min (at 5 bars)	433300	71x66x55	 
<b>Farmdrinker 2 balls</b> Capacity: 76 l, 25 - 40 animals, water flow: 40 l/min (at 5 bars)	434650	91x61x65	
<b>Float Valve for Farmdrinker (w/o support arm and float)</b>	330521		 
<b>Rubber Seal</b>	330512		
<b>Rubber Plug</b>	330322		

 **Very rugged, especially suitable for bulls and suckler cows**

### The advantages:



Compact Thermal Bowl: simple and easy draining to the side



Compact Thermal Bowl: easy float adjustment, fixing possible



Thermolac: 6 wing nuts for easy opening – the float can be easily adjusted or turned off



Thermolac: simple connection (1/2") to the water supply using armoured tubing



Thermolac: large drain opening (Ø 100 mm) for easy cleaning



## Energy Free Frost-Protected Ball Waterers

### How does a ball waterer operate?

Water comes from the ground at a temperature of about 10 °C and fills the drinking containers until the balls seal off the drinking holes. Whenever animals drink, the float valve allows the consumed water to be replaced. The energy of the replacement water flowing in keeps the water warm when it is cold, and cool when it is hot. By means of the special ball-valve system, and without any additional power requirements, fresh, clean water which is free from algae, is provided at both -30 °C as well as +30 °C.

- By means of the patented ball-valve system, fresh, clean water is provided at both -30 °C as well as +30 °C
- While the animal is drinking, the ball rolls away
- The supply must come from below frost level
- Water pressure: 1 to 5 bars
- A minimum of 5 animals guarantees frost-free operation down to -15 °C, or with 15 animals down to -25 °C (Thermo-Quell) or -30 °C (Compact/Thermolac)
- Ready for hookup to 1/2" (Thermolac/Compact) or 3/4" (Thermo-Quell) water line
- The ball waterer should be positioned, slightly raised, on a 15 cm thick concrete platform, each side of which is 30 cm wider than the drinker itself
- Large drain holes allow regular, quick and complete cleaning of the trough

### Metal Bowl

- With aluminium bowl in place of ball
- Open access to the water
- Due to the high conductivity of aluminium, the water does not freeze in the bowl



Thermo-Quell: large front drain hole for fast discharge



Simple connection (3/4") to the water supply using armoured tubing



The lid can be tilted upward and removed for easy access to the valve



Thermolac 40B/75B: standing water, therefore easy access to the water, e.g. for sheep






























Thermolac 40B/75B: fast removal of the metal bowl without tools




Thermolac 40B/75B: easy cleaning of the metal bowl



Type	Ref.	Size D x W x H (cm)	Description
<b>Compact Thermal Bowl, 2 ball</b> Capacity 71 l, 25 - 40 animals, water flow: 28 l / min at 5 bars, 1/2" hookup with flexible tube, l = 30 cm, IG/IG	380118	90x60x45 cm	  -30°C   
<b>Float Valve</b>	38011801		
<b>Drain Plug</b>	38011802		
<b>Thermo-Quell Mod. 630, 1 ball</b> Capacity: 40 l, 10 - 25 animals, Maxiflow float valve, water flow: 40 l/min (at 5 bars), 3/4" hookup	1300630	70x60x56	  -25°C   
<b>Thermo-Quell Mod. 640, 2 ball</b> Capacity: 80 l, 25 - 40 animals, Maxiflow float valve, water flow: 40 l/min (at 5 bars), 3/4" hookup	1300640	100x60x56	
<b>High-Pressure Float Valve</b>	1310754		
<b>Low Pressure Float Valve</b>	1310738		
3/4" hookup, water flow: up to 19 l/min (at 1 bar)			
<b>Seal Ring (qty 10)</b>	102049310		
<b>Cap</b>	1321284		
<b>① Auxiliary Heating Element for Thermoquell 1316070</b> 24 V / 180 W, with thermostat control (ON at 5 °C; OFF at 15 °C) Ball waterer down to -35 °C / metal bowl waterers down to -25 °C			
<b>Thermolac 40, 1 ball</b> Capacity: 40 l, 15 - 25 animals, water flow: 38 l/min (at 5 bars), 1/2" hookup	433800	66x64x56	  -30°C   
<b>Thermolac 75, 2 ball</b> Capacity: 75 l, 25 - 40 animals, water flow: 38 l/min (at 5 bars), 1/2" hookup	433801	99x66x53	
<b>Thermolac 40B, 1 bowl</b> Capacity: 40 l, 15 - 25 animals, water flow: 38 l/min (at 5 bars), 1/2" hookup	433804	66x64x56	
<b>Thermolac 75B, 2 bowl</b> Capacity: 75 l, 25 - 40 animals, water flow: 38 l/min (at 5 bars), 1/2" hookup	433805	99x66x53	  -15°C     
<b>High Pressure Float Valve</b>	1090955L		
Hook Up 1/2", colour black			
<b>Low Pressure Float Valve</b>	351613		
1/2" hookup, colour blue, water flow: up to 19 l/min (at 1 bar)			
<b>Seal Ring (qty 20)</b>	1090729		
<b>Drain Plug with seal ring</b>	1090985		
<b>Seal for drain plug</b>	1091036		
<b>Ref. 1090985 (qty 2)</b>			
<b>② Auxiliary Heating Element for Thermolac 350335</b> 24 Volt/30 Watt Ball waterers down to -35 °C, metal bowl waterers down to -25 °C			

Livestock waterers

 All temperatures given in respect of frost safety relate to the use in livestock buildings without direct influence from wind and weather  
Please order transformer separately (page B187)

Perfection in detail



Special blow-back proof valve of 0.5 to 8 bar



Base of Mod. 41 with the automatic self-sealing ball flange



Mod. 43 A with float valve



Model 41A with Thermo Pipe

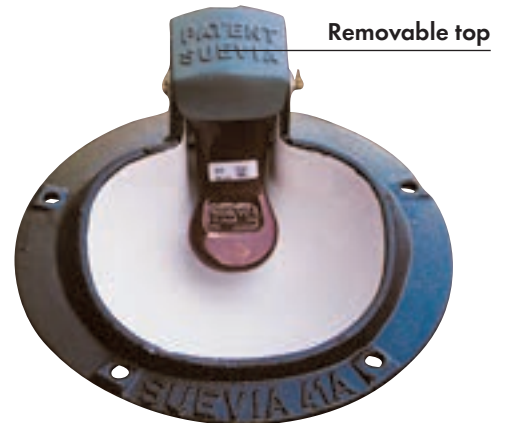
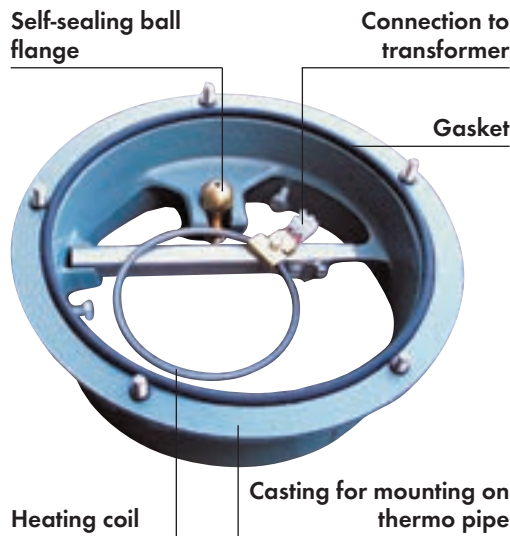


Model 43A with Thermo Pipe

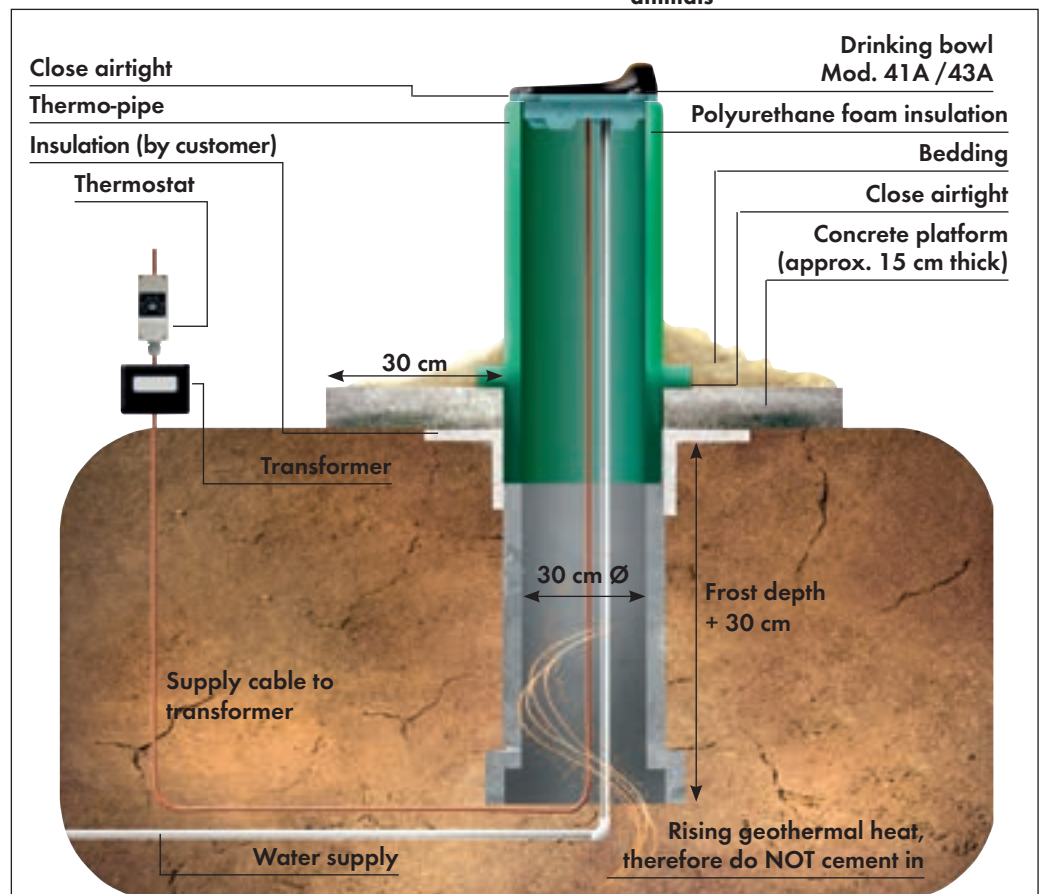
# Heated Drinking Bowls

- Installation on concrete pipes, internal diameter: 30 cm or plastic thermo pipes:
- Hookup 1/2"
- Resistance heating with 80 W or 180 W for Mod. 41A/43A, Stalcho 2/Lakcho 2 with 50 W or 80 W power
- Transformers and thermostats have to be ordered separately

**Recommendation:**  
regulation through thermostat



**!** Keep the 24 V supply line as short as possible  
Protect water and electrical supply lines against damage caused by browsing animals



Side view - mounting on thermo-pipe  
Note: the mounting tube should not be insulated from earth at the lower level



Type	Ref.	Size D x W x H (cm)	Description
<b>Nose-Paddle Bowl Mod. 41A</b> Incl. heating coil 24 V/80 W, water pressure 1 to 5 bars, regulation through exchangeable nozzle, ½" hookup, water flow: up to 14 l/min (at 5 bars)	1000041	35x35x26	    
<b>Nose-Paddle Bowl Mod. 41A - Siberia</b> Same as above, but with 180 W heating coil, frost-free down to -35 °C	1001041	35x35x26	
<b>Seal Ring (qty 10)</b> <b>Valve Spring (5 pcs)</b>	102049310 10204945		
<b>Float Valve Bowl Mod. 43A</b> Incl. heating coil 24 V/80 W, water pressure 1 to 5 bars, for sensitive animals, ½" hookup, capacity: 2 l, water flow: up to 6 l/min (at 5 bars)	1000043	35x35x25	     
<b>Float valve bowl mod. 43A - Siberia</b> <b>with overheating protection thermostat</b> Same as above, but with a 180 W heating coil, frost free down to -35°C	1001044	35x35x25	
① <b>Anti-Splash Guard for Mod. 43A</b> plastic coated cast iron	1011068		  
② <b>Overheating protection thermostat</b> for mod. 41A/43A (OFF at 40°C, ON at 23°C)	1010438		
<b>Float Valve Mod. 43</b>	10210701		
<b>Membrane for float valve</b> <b>Mod. 671 and 674</b>	1020649		
<b>Thermo-Pipe for Mod. 41A, 43A</b>			
<b>Installation height 40 cm</b>	1010344	42x42x40	
<b>Installation height 60 cm</b>	1010346	42x42x60	
<b>Installation height 80 cm</b>	1010348	42x42x80	
<b>Installation height 80 cm (+30 cm)</b>	1010345	42x42x110	
<b>Nose-Paddle Bowl Stalcho 2</b> Incl. heating coil 24 V/50 W, Very sturdy design made of one piece HDPE, with drain plug and control light, regulation through exchangeable nozzle, ½" hookup, water flow up to 13l / min at 3 bars	381641	38x38x24	    
<b>Nose-Paddle Bowl Stalcho 2</b> same as above, but 80 W heating coil, frost-free down to -25°	381841	38x38x24	
<b>Float Valve Bowl Mod. Lakcho 2</b> Incl. heating coil 24 V/50 W, Very sturdy design made of one piece HDPE, with drain plug and control light, regulation through exchangeable nozzle, ½" hookup, water flow up to 10l / min at 3 bars	381640	38x38x24	     
<b>Float Valve Bowl Mod. Lakcho 2</b> same as above, but 80 W heating coil, frost-free down to -25°	381840	38x38x24	
<b>Membrane for float valve</b> <b>Mod. 671 and 674</b>	1020649		
<b>PE Stand</b>			
<b>Installation height 40 cm</b>	381570	40x40x40	     
<b>Installation height 60 cm</b>	381572	60x40x40	
<b>Installation height 74 cm</b>	381573	74x40x40	
<b>Installation height 60 cm (+40 cm)</b>	381574	100x40x40	



Description

Type

Ref.

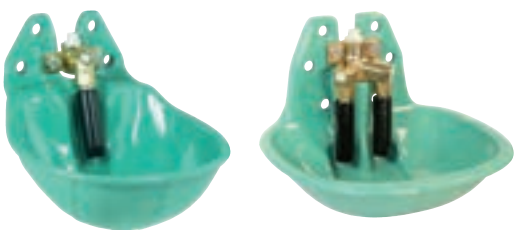
Size

D x W x H (cm)



<b>Steel Post for Mod. 25R</b> height 60 cm, galv.	<b>1010455</b>	60x27x27
<b>Steel Post for Mod. 25R</b> height 80 cm, galv.	<b>1010456</b>	80x27x27
<b>Pipe Valve Bowl Mod. 25R MS 3/4"</b> With 3/4" brass valve, large, enamelled cast iron bowl, continuous water regulation, hookup from above and below, suitable for circulation heaters, water flow: up to 12 l/min (at 5 bars)	<b>1000253</b>	28x25x21
<b>Pipe Valve Bowl Mod. 25R VA 3/4"</b> With 3/4" stainless steel valve, otherwise same as Mod. 25R MS 3/4"	<b>1000259</b>	28x25x21
<b>Steel Stand for Mod. 19R</b> height 60 cm, galv.	<b>1010459</b>	60x30x30
<b>Steel Stand for Mod. 19R</b> height 80 cm, galv.	<b>1010460</b>	80x30x30
<b>Double Pipe Valve Bowl Mod. 19R 3/4"</b> Big, enamelled cast iron bowl, continuous water regulation, hook-up from above and below, suitable for circulation heaters, water flow: up to 20 l/min (at 5 bars)	<b>1000198</b>	31x27x22

**!** Other Pipe Valve Bowl available



**1. Frost protection heater version "circulation"**

- ① **Pipe Connection Set 3/4" Mod. 25R**      **1031983**  
To connect the ring main to a circulation heater
- ② **Pipe Connection Set 3/4" Mod. 19R**      **1033003**  
for hook up to a circulating heating system

**2. Frost protection heater version "heating cable"**

- ③ **Heating Set for steel post with Mod. 25R 3/4"**      **1010458**  
24 V / 80 W
- ④ **Heating Set for steel stand with Mod. 19R 3/4"**      **1010461**  
24 V / 80 W
- ⑤ **Frost Protection Heating Cord with Thermostat Control**      **381110**      L = 200  
(ON at 5 °C; OFF at 15 °C), 24 V / 20 W
- ⑥ **Frost Protection Heater Cable**      **381100**      L = 200  
24 V/20 W
- ⑦ **Frost Protection Heater Cable**      **381101**      L = 300  
24 V/30 W





Type

Ref.

Size

D x W x H (cm)

Description

**Pipe Valve Bowl Mod. 46 MS 3/4"**      **1001463**      29x26x21  
 With 3/4" brass valve, incl. heating coil  
 24 V / 80 W, 1 to 6 bar water pressure,  
 stepless water regulation, suitable for circulation heating systems,  
 connection at the top and bottom, inlet 1 l / min at 5 bar

**Pipe Valve Bowl Mod. 46 VA 3/4"**      **1001469**      29x26x21  
 With 3/4" stainless steel valve,  
 otherwise same as Mod. 46 MS 3/4"

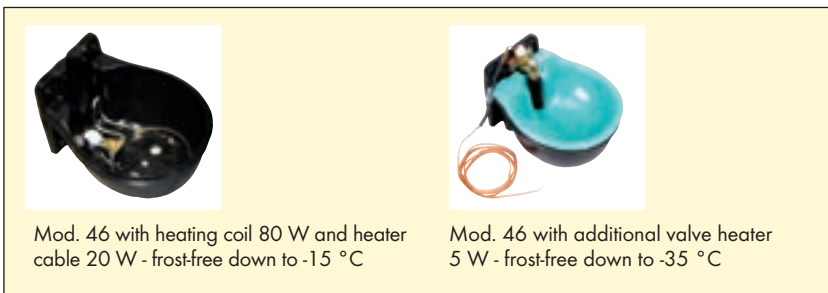
**Lower Part for valve with spring, brass**      **10214251**  
**Lower Part for valve with spring, V2A**      **10214291**  
**Seal Ring (qty 10)**      **102072710**  
**Valve Spring (qty 10)**      **102067310**  
**Adjusting Screw with O-Ring**      **10206345**  
 (qty 5)



Left over water  
 doesn't freeze in  
 the bowl



- ① **Frost Protection Heating Cord with Thermostat Control**      **381110**      L = 200  
 (ON at 5 °C; OFF at 15 °C), 24 V / 20 W
- ② **Frost Protection Heater Cable**      **381100**      L = 200  
 24 V/20 W
- ③ **Frost Protection Heater Cable**      **381101**      L = 300  
 24 V/30 W
- ④ **Valve Heater 24 V/5 W**      **1011405**  
 With thermostat  
 (ON at 5 °C, OFF at 12 °C), cable 3 m
- ⑤ **Pipe Connection Set 3/4"**      **1033005**  
 for hook up from above to a circulating heating system
- ⑥ **Pipe Connection Set 3/4"**      **1033006**  
 for hook up from below to a circulating heating system
- ⑦ **Guard Bracket for wall mounting Mod. 5**      **381358**
- ⑧ **Valve Guard**      **1020249**  
 For Mod. 25R, 12P, 18P, 46, 375,  
 1200, 1200P
- ⑨ **Pipe Bracket**      **1010180**  
 For 2" - 3" pipes, (order qty 2)



Mod. 46 with heating coil 80 W and heater cable 20 W - frost-free down to -15 °C

Mod. 46 with additional valve heater 5 W - frost-free down to -35 °C

# Basic information for the electrotechnical connection of heated drinking bowls and heater cables

## 1. Transformers

Transformers are used with heated drinking bowls for safety reasons, in order to reduce the mains voltage from 230 V to an animal-safe 24 V. Thus there is no danger for the animals and, likewise, for humans if a cable is damaged, for example, through biting by animals. The transformer must be installed as close as possible to the drinking bowl, but out of reach of the animals.

## 2. Thermostat

The thermostat is installed between the power outlet and the heating unit. If the temperature sinks below a certain degree, the equipment is automatically switched on. Once the frost risk no longer exists, the equipment is automatically switched off.

The trigger criterion for the frost protection thermostat (ref. 381510) is the prevailing air temperature. The trigger criterion for the contact thermostat (ref. 381520) is the temperature of the water line (= water temperature).

The thermostat pays for itself quickly since the equipment is only switched on when absolutely necessary. Depending on the equipment performance, the energy savings are considerable. In addition, contrary to manual switching it is always guaranteed that the heating unit is working whenever there is danger of frost.

Ideally, the thermostats should be placed at the coldest location. Please note: Installation must be carried out by qualified personnel

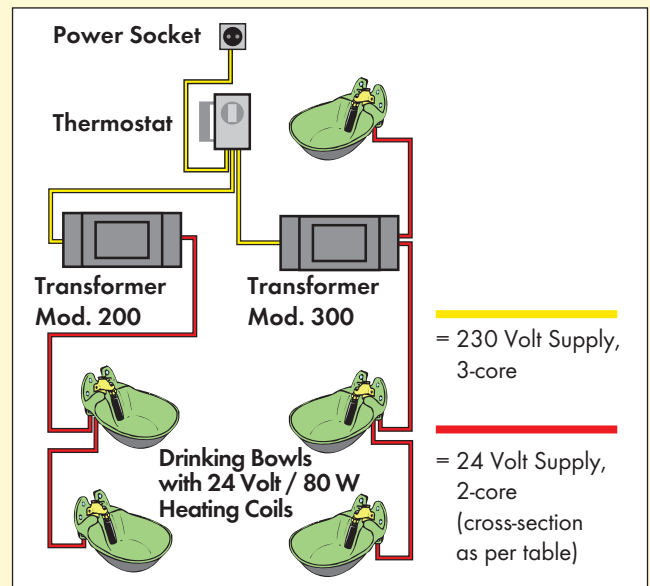
**In order to obtain the full heating potential please note the following cross-sections for the 2-core 24 V cable:**

Performance transfer over distance				
Cable cross-section	100 Watt	200 Watt	300 Watt	400 Watt
Cross-section 1.5 mm <sup>2</sup>	max. 45 m	max. 20 m	max. 15 m	max. 12 m
Cross-section 2.5 mm <sup>2</sup>	max. 80 m	max. 40 m	max. 25 m	max. 20 m
Cross-section 4.0 mm <sup>2</sup>	max. 100 m	max. 85 m	max. 40 m	max. 30 m
Cross-section 6.0 mm <sup>2</sup>	max. 120 m	max. 100 m	max. 65 m	max. 50 m

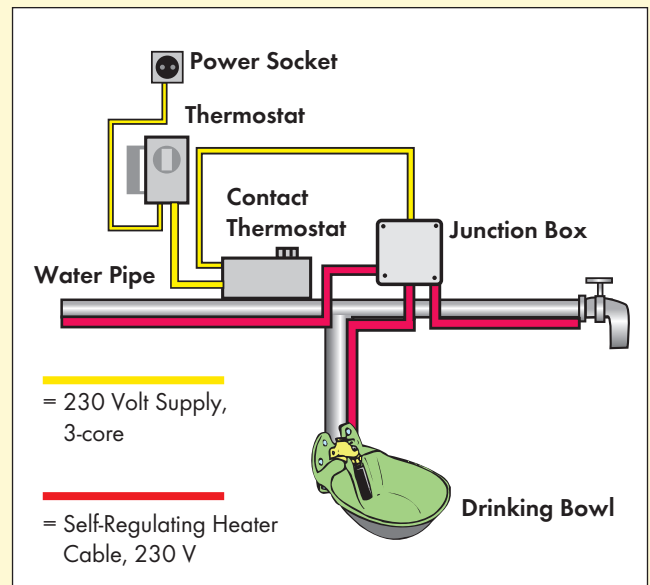


## Connection examples for a frost-free water supply ...

with heated drinking bowls



with self-regulating heater cable



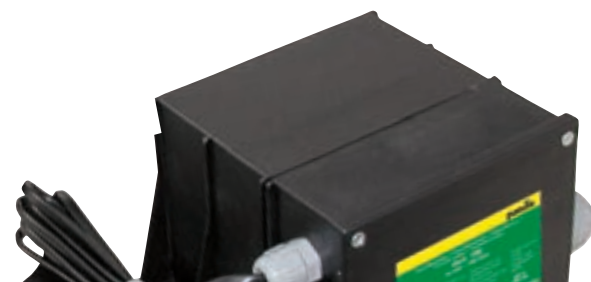
## Sample calculation for transformers

How to find the ideal transformer for your heated drinking bowls:

Quantity of needed drinking bowls/auxilliary heating elements x indicated power (W) + quantity of needed frost protection heater cables x indicated power (W)

- 5 Mod. 46 drinking bowls with 80 W heating capacity = 5 x 80 W = 400 W
- 5 heating cords of 2 m length with 20 W capacity = 5 x 20 W = 100 W
- Total 400 W + 100 W = 500 W
- Requirement is met by 1 transformer of 300 W and 1 transformer of 200 W



Type	Ref.	Size D x W x H (cm)	Description
<b>Transformer Mod. 100</b> 24 V/100 W	<b>381504</b>	12x12x8	
<b>Transformer Mod. 200</b> 24 V/200 W	<b>381503</b>	13x13x9	
<b>Transformer Mod. 300</b> 24 V/300 W	<b>381501</b>	17x17x11	
<b>Transformer Mod. 400</b> 24 V/400 W	<b>381502</b>	19x19x13	



- Transformer protection grade IP65
- Terminals protection grade IP54 (spray protected)
  1. Mounting directly in stable area
  2. No corrosion of hookups
- Sturdy terminal strips with strain relief
- Plug-in ready with standardised Euro plug

**Installation has to be done by qualified personnel**

<b>Frost Protection Thermostat</b> for wall-mounting, for automatic switch-on of transformers, up to 16 A/230 V max. (max. switch capacity: 1.5 kW)	<b>381510</b>	12x6x6
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- adjustable from -10° C - 40° C
- mount at the coldest location in the stable
- protection grade IP54, spray protected



<b>Contact Thermostat</b> for mounting on water pipe, for automatic switch-off of the self-regulating heater cable, up to 16 A/230 V max. (max. switch capacity: 1.5 kW)	<b>381520</b>	12x6x6
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- adjustable from 0 - 120 °C
- protection grade IP54, spray protected



# Water Circulation Systems

Provide frost-free water in your shed and stable via an electric auxiliary heating element. Areas of use from small stables up to large cold sheds can be covered by choosing the appropriate system.

**Installation has to be done by qualified personnel**

- Prerequisite: a water installation in which all drinking bowls are connected with one another via a ring main system
- On system switch-on the pump sets the water in constant circulation. The heating element is controlled by the regulating thermostat
- Length of supply line: 200 m - 350 m, including return line, is possible
- Pipe cross section from 1/2" to 1"
- The water pipes should be additionally insulated
- A 30 mA residual current device (RCD) should be incorporated upstream
- Note: Ensure that the supply line in which the water is not circulating is frost-protected by suitable measures (e.g. heater cable)

**1** Circulation Heater Mod. 300, 303 and 317

- Enamelled cast iron housing
- Heating rod with integrated regulating thermostat Mod. 317 with return flow temperatur control
- Durable condensation-resistant circulation pump with 93 W output power
- Mounted plug-in ready on stainless steel plate
- System Length max. 200 m
- Supplied with: 3 kW heater, regulating thermostat (0 - 40 °C), 3-stage circulation pump, master switch, pressure relief valve, automatic vent valve, check valve, return flow temperatur control (Mod. 317 only)
- One 30 mA residual current device (RCD) to be incorporated by user

**2** Circulation heater Mod. 311 and 312 with return flow temperature control

- Heating rod controlled through return flow temperature sensor
- Especially for large livestock buildings, length of water line up to 250 m (Mod. 311) and 350 m (Mod. 312)
- Robust, high-performance circulation pump, protected against condensation with 400 W output power
- Mounted plug-in ready on stainless steel plate
- Supplied with: 3 kW (Mod. 311) and 6 kW heater (Mod. 312), regulating thermostat (0 - 40 °C), 3-stage circulation pump, master switch, pressure relief valve, automatic vent valve, check valve and flap trap, inflow and return flow temperatur sensor
- Two 30 mA residual current devices (RCD) to be incorporated by user

Pressure Relief Valve

Check Valve

Vent Valve

Flap Trap

**3** Circulation Heater Mod. Compact Great Value

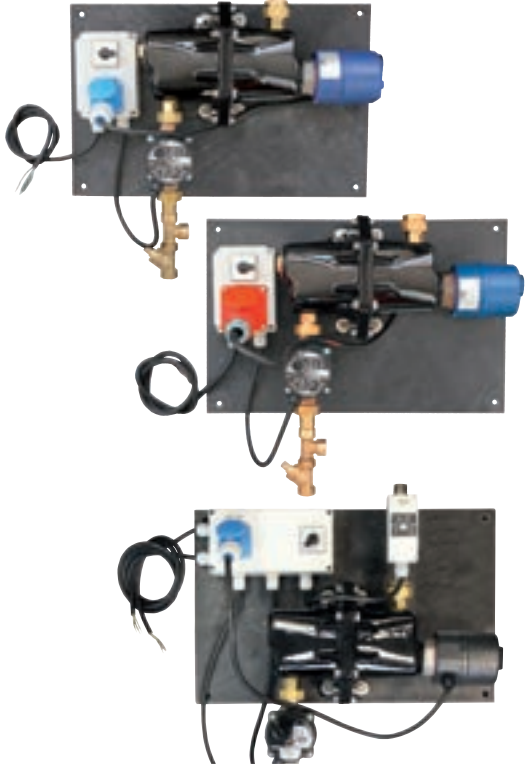
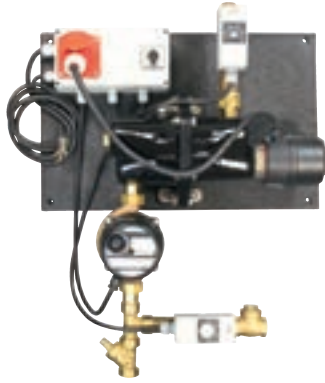
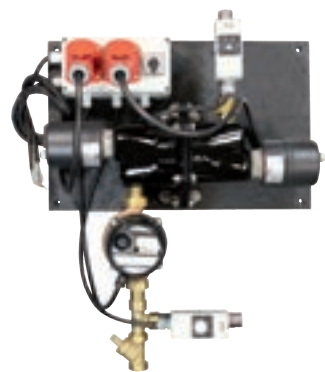

- Stainless steel case, pressure relief, mounting bracket included
- Heating rod (230 V / 3 kW)
- Circulation pump (230 V / 85 W), inside plasticcoated
- Thermometer to indicate water temperatur
- System length: 200 m max.
- Water hookup: 3/4"
- One 30 mA residual current device (RCD) to be incorporated by user

Pressure Relief Valve

Check Valve

Vent Valve

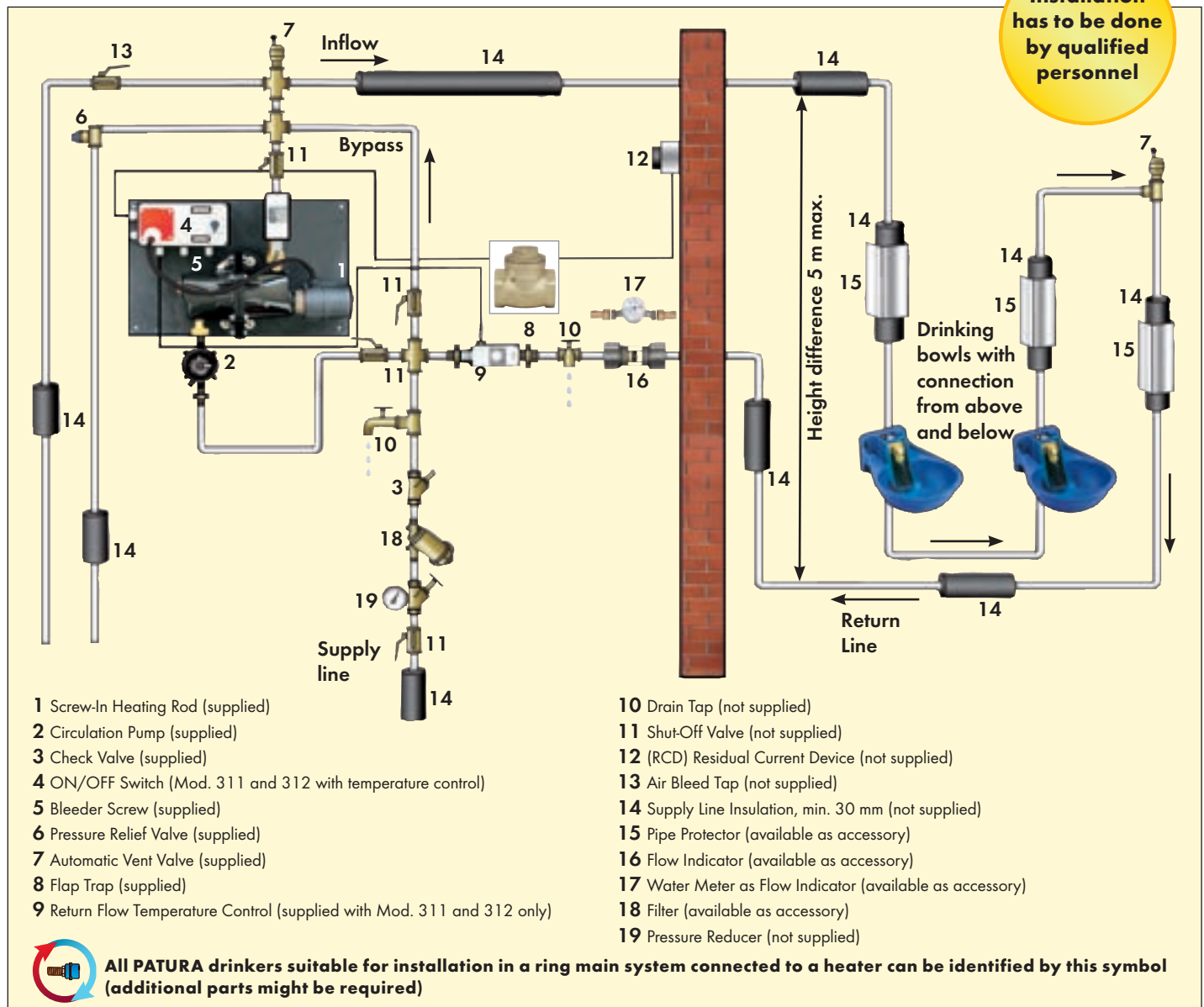


Type	Ref.	Size D x W x H (cm)	Description
<p><b>Circulation Heater Mod. 303</b>                      With thermostat in the inflow line,                      1 x 230 V/3 kW heating coil,                      circulation pump (93 W),                      check valve, flap trap, pressure relief valve,                      automatic vent valve and master switch,                      mounted plug-in ready on stainless steel plate,                      30 mA residual current device (RCD)                      to be incorporated by user,                      water pressure: 4 bars max., water hookup: 1/2" or 3/4",                      system length: 200 m max., high difference (inflow/return line) max. 5 m</p>	1010303	60x39x22	
<p><b>Circulation Heater Mod. 300</b>                      Same as circulation heater Mod. 303,                      but with 400 V power supply</p>	1010300	60x39x22	
<p><b>Circulation Heater Mod. 317</b>                      same as Mod. 303, additional return                      flow temperatur control</p>	1010317	60x39x22	
<p><b>Circulation Heater Mod. 311</b>                      With thermostat in the return line,                      1 x 400 V/3 kW heating rod,                      high-performance circulation pump (400 W),                      check valve, flap trap, pressure relief valve,                      automatic vent valve and master switch,                      mounted plug-in ready on stainless steel plate,                      2 x 30 mA RCDs to be incorporated by user,                      water hookup: 3/4" or 1",                      system length: 250 m max., high difference (inflow/return line) max. 7 m</p>	1010311	60x39x22	<div style="border: 2px solid orange; border-radius: 50%; padding: 10px; display: inline-block; text-align: center;"> <p><b>Installation has to be done by qualified personnel</b></p> </div> 
<p><b>Circulation Heater Mod. 312</b>                      With thermostat in the return line,                      2 x 400 V/3 kW heating rods,                      high-performance circulation pump (400 W),                      check valve, flap trap, pressure relief valve,                      automatic vent valve and master switch,                      mounted plug-in ready on stainless steel plate,                      2 x 30 mA RCDs to be incorporated by user,                      water hookup: 1", system length: 350 m max., high difference (inflow/return line) max. 4 m</p>	1010312	60x39x22	
<p><b>Circulation Heater Mod. Compact</b>                      With thermostat in the inflow line,                      1 x 230 V/3 kW heating coil,                      circulation pump (85 W), inside plasticcoated,                      pressure relief valve, stainless steel,                      thermometer, check valve, automatic vent valve,                      30 mA residual current device (RCD)                      to be incorporated by user,                      water pressure: 4 bars max.,                      water hookup: 3/4", system length: 200 m max., high difference (inflow/return line) max. 4 m</p>	380115	70x16x15	

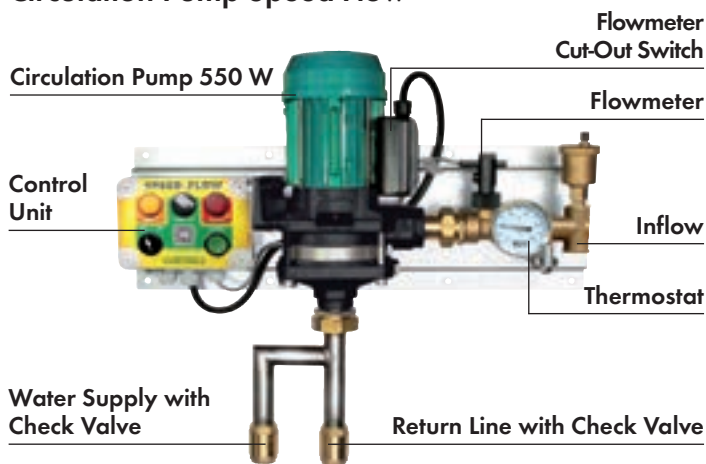
- ! • Return flow temperature control
- For drinking tubs as well

- ! • For large cold sheds
- Return flow temperature control
- For drinking tubs as well

# Assembly diagram for circulation heating system

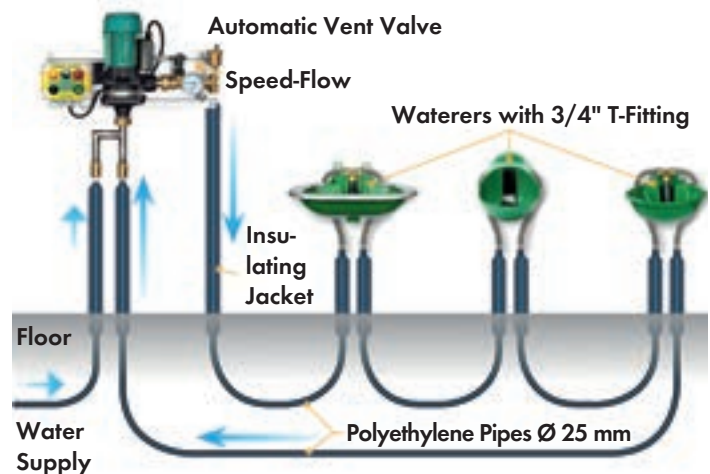


## Circulation Pump Speed-Flow



### Speed-Flow - efficient frost protection without heating

- For water lines up to 250 m with 3/4"
- Powerful circulation pump (550 W) provides fast and constant water circulation
- Consumes 10 times less power compared to circulation heaters
- Mounted plug-in ready to base plate



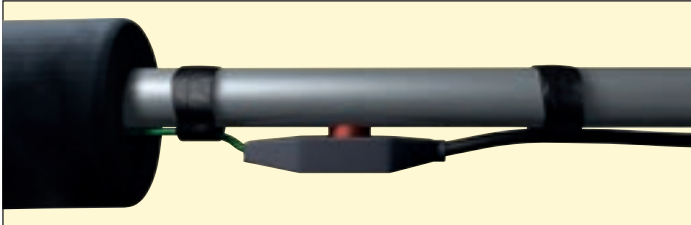
- Installation into the ground to use the geothermal energy
- Easy control with warning light
- The pump stops automatically in case of lack of water (e.g. blockage or defective water supply)



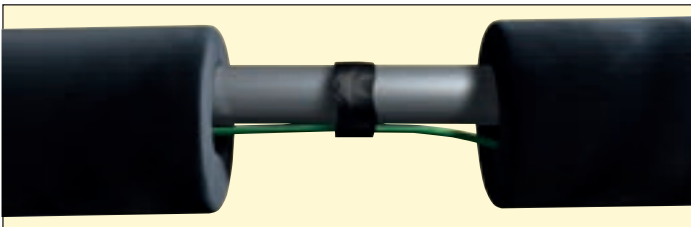
Type	Ref.	Size D x W x H (cm)	Description
<b>Water Meter</b> To monitor circulation or water consumption, hookups: 1" male thread, nominal flow: 2.5 m <sup>3</sup> /h with 3/4" circulation pipe, 3/4" pipe diam., cold water range up to 30 °C max.	380109	23x70x70	
<b>Flow Indicator</b> To monitor water circulation, water hookup: 3/4"	1010309	12x5	 
<b>Flow Indicator</b> To check operation of circulation, hookup 1"	1010310	12x5	
 <p><b>Recommended for all water circulation systems</b></p>			
 <p><b>! Inspection glass with water driven indicator. Installed at the end of the return line, in front of the flap trap</b></p>			
<b>Pipe Protector</b> Bite and impact protection for water line and insulation, hot-dip galvanised, with 6 mm drill holes	380108	75x6x6	
<b>Pipe Protector</b> stainless steel, for supply and return line	380119	100x21x6	
<b>Automatic Vent Valve</b> For automatic de-airing of the circulation system, water hookup: 3/8"	350552	8x5	
 <p><b>! An automatic vent valve should be mounted at every high point in the circulation system</b></p>			
<b>Water Filter</b> 1" water hookup with 0.1 mm filter element, flow rate: 6 m <sup>3</sup> /h	350446		
<b>Filter Element</b> for water filter, 0.1 mm mesh size	350445		
 <p><b>! Recommended for all dirt-sensitive drinkers like all float valve bowls and troughs</b></p>			
<b>Alarm Systems for circulation heater</b> Consisting of thermostat and signal-horn for 230 V connection, installation to water ring main, when the temperature falls e.g. under +5 °C, the signal horn sounds informing about a drop in temperature in the system	1010308		 
<b>Circulation Pump Speed-Flow</b> With control unit (operation indicator, warning light, ON-OFF-switch), powerful circulation pump 550 W with 230 Volt power supply, water hookup 3/4", flowmeter cut-out switch, automatic vent valve, mounted plug-in ready to base plate, 30 mA RCD (residual current device) to be incorporated by user, with thermometer, system length: 250 m max.	381669	58x20x30	
 <p><b>! Efficient frost protection without heater</b></p>			

## Frost Protection Heater Cable

- Prevents the water pipes from freezing in frosty conditions
- Typical heat output 16 W per metre
- Thermostat (plug-in ready): switch-on temperature 3 °C, switch-off temperature 12 °C
- Spiral excess lengths around the end of the pipe (minimum clearance between loops 15 mm)
- Protection grade IP X7 (waterproof protection)



Place the thermostat with its sensor firmly against the pipe and wrap with insulating tape, be sure to place the thermostat at the coldest section of the pipe to be protected.



Run the heater cable underneath the water pipe and affix at regular intervals with insulating tape, further protect the water pipe with pipe insulation of at least 13 mm.

### Frost protection with the use of heater cable:

Water pipe diameter	22 mm 1/2"	28 mm 3/4"	35 mm 1"	42 mm 1 1/4"
Without pipe insulation	-13 °C	-10 °C	-7 °C	-5 °C
With 13 mm pipe insulation	-45 °C	-40 °C	-40 °C	-35 °C

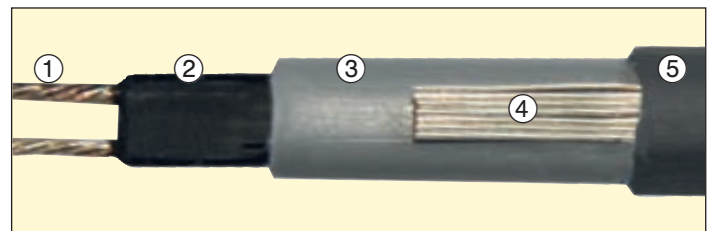
### General installation requirements for all heater cables

- The installation should be carried out to VDE standard 0100 by a professional electrician
- The water pipes must be earthed. A residual current device (30 mA RCD) must be in circuit
- Ensure that the heater cable is laid taut along the underside of the pipe. Attach every 30 cm with insulating tape
- The heater cable should never be laid so as to touch other heater cables
- The water pipe, with its heater cable, should be covered with pipe insulation (min. 10 mm)
- The heater cable should be protected against damage generally – but particularly against animal biting/chewing damage
- Kinks in the heating cable should be avoided (min. bend radius 50 mm)
- In the case of plastic water pipes, first wrap these with aluminium tape before affixing the heater cable, so as improve the thermal conductivity

## Self-Regulating Heater Cable

- Prevents the water pipes from freezing in frosty conditions
- Heat output 15 W per metre at 0 °C (9 W per metre at 10 °C)
- The heat output is automatically and continuously adjusted in relation to the pipe temperature
- The cable can be shortened or lengthened
- Multiple divisions are possible
- Maximum section length 100 m
- Damages can be repaired
- The heat output is automatically adjusted to cope with different temperatures in different parts of the system
- Maximum length 150 m with 16 A fuse
- Note: to regulate the max. water temperature, the contact thermostat (ref. 381520) must be installed

### TECHNICAL DESCRIPTION

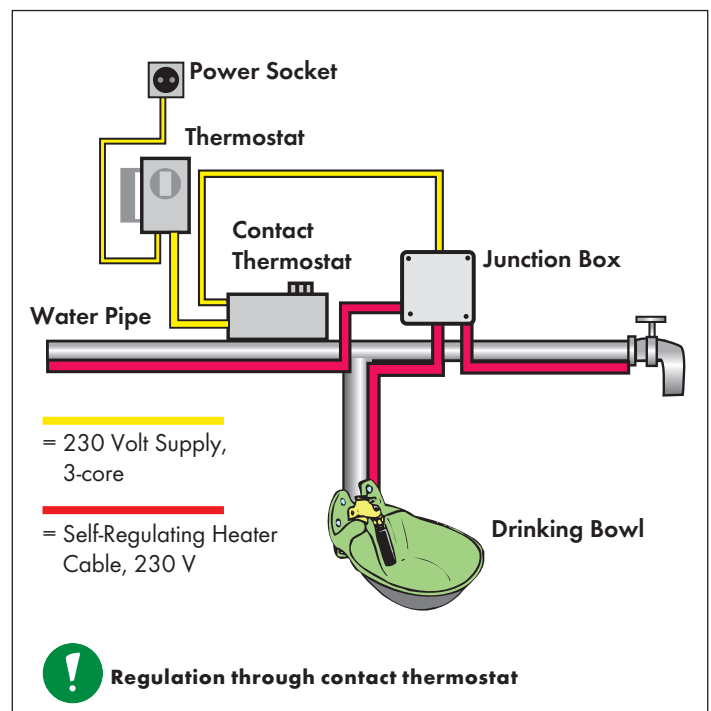


- ① Electric Power Lines
- ② Heating Element
- ③ Protective Shell
- ④ Protective Earth
- ⑤ Outer Protective Shell

### Mode of operation:

The two electrical conductors are set in an insulating polymer that contains graphite particles.

1. When it is cold: the polymer contracts, the graphite particles come into contact with each other, the cable becomes warm
2. When it is warm: the polymer expands. There is no contact between the graphite particles, the cable does not heat









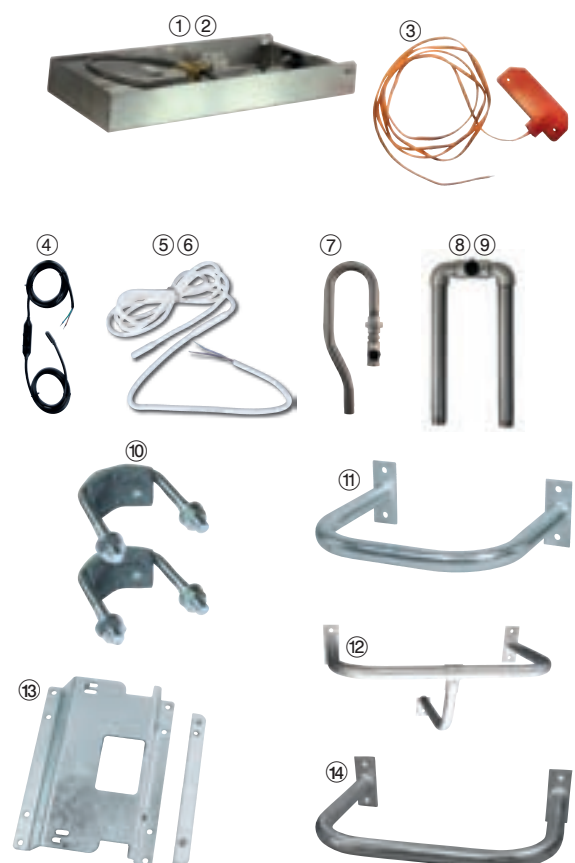
Description	Type	Ref.	Size D x W x H (cm)
<p>① ②</p>	<p>① <b>Valve Water Trough Mod. 480</b> Stainless steel, with circulating hook up 3/4", from below, water flow up to 30 l / min</p>	1300480	40x39x45
	<p>② <b>Valve Water Trough Mod. 480</b> Stainless steel, to connect the ring main 3/4" from above, water flow up to 30l/min</p>	1300481	40x39x45
	<p>③ <b>Valve Water Trough Mod. 490</b> Stainless steel, with circulating hook up 3/4", from below, water flow up to 30 l / min</p>	1300490	40x39x45
	<p><b>Spraying nipple for Mod. 480/490</b></p>	1800539	
	<p>① <b>Auxiliary Heating Element for Mod. 480</b> 24 V / 80 W</p>	1310528	
	<p>② <b>Auxiliary Heating Element for Mod. 490</b> 24 V / 160 W</p>	1310463	
	<p>③ <b>Return Loop Pipe Connection Set 3/4" for Mod. 490</b> for hook up to a circulating heating system</p>	1033009	
	<p>④ <b>Frost Protection Heating Cord with Thermostat Control</b> (ON at 5 °C; OFF at 15 °C), 24 V / 20 W</p>	381110	L = 200
	<p>⑤ <b>Frost Protection Heater Cable</b> 24 V/20 W</p>	381100	L = 200
	<p>⑥ <b>Frost Protection Heater Cable</b> 24 V/30 W</p>	381101	L = 300
	<p>⑦ <b>Double Bracket for pipes</b> 1 1/4" to 2" (pair)</p>	1010179	
	<p>⑧ <b>Guard Bracket for Mod. 480/500/600</b></p>	1311391	
	<p>⑨ <b>Guard Bracket for Mod. 490/520/620</b></p>	1311393	
	<p>⑩ <b>Wall Mounting Bracket 90° for trough drinker Mod. 480/500/600</b></p>	1311050	
	<p>⑪ <b>Guard Bracket for Mod. 480/500/600</b> For 90° wall fixation</p>	1311394	
<p>③</p> <p><b>NEW</b></p>			

**Stainless Steel Troughs: ideal for free-stall barns**

- High water inflow up to 30 l/min - ideal for high-performance animals
- Low water level for optimal hygiene and self-cleaning
- Low water consumption: no tipping out required




















Type	Ref.	Size D x W x H (cm)	Description
<b>1 Valve Water Trough Mod. 500</b> Stainless steel, 3/4" right-hand hookup, wall or pipe mounting, water flow: up to 30 l/min at 5 bars	1300500	40x39x45	  
<b>2 Double Valve Water Trough Mod. 520</b> Stainless steel, 3/4" side hookup, as above, but 2 drinking positions, water flow: up to 30 l/min (at 5 bars)	1300520	74x43x51	
<b>Seal Ring (qty 10)</b>	102049310		
<b>1 Auxiliary Heating Element for Mod. 500</b> 24 V/80 W	1310523		  
<b>2 Auxiliary Heating Element for Mod. 520, 600, 620</b> 24 V/80 Watt, for Mod. 520, 600, 620 (Two elements necessary for Mod. 520 and 620)	1310524		
<b>3 Valve Heater 24 V / 7 W</b>	1310527		
<b>4 Frost Protection Heating Cord with Thermostat Control</b> (ON at 5 °C; OFF at 15 °C), 24 V / 20 W	381110	L = 200	
<b>5 Frost Protection Heater Cable</b> 24 V/20 W	381100	L = 200	
<b>6 Frost Protection Heater Cable</b> 24 V/30 W	381101	L = 300	
<b>7 Pipe Connection Set 3/4"</b> Mod 500/600/6140	1031984		
<b>8 Return Loop Pipe Connection Set 3/4"</b> for Mod. 520/620 For hook up to a circulating heating system	1033004		
<b>9 Ring line connection set 1"</b> for mod. 520/620 for hook up to a circulating heating system	1033007		 
<b>10 Double Bracket for pipes</b> 1 1/4" to 2" (pair)	1010179		
<b>11 Guard Bracket for Mod. 480/500/600</b>	1311391		
<b>12 Guard Bracket for Mod. 490/520/620</b>	1311393		
<b>13 Wall Mounting Bracket 90° for trough drinker</b> Mod. 480/500/600	1311050		
<b>14 Guard Bracket for Mod. 480/500/600</b> For 90° wall fixation	1311394		





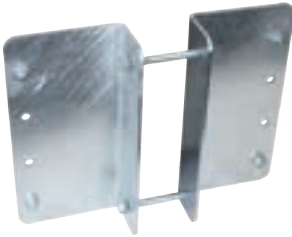


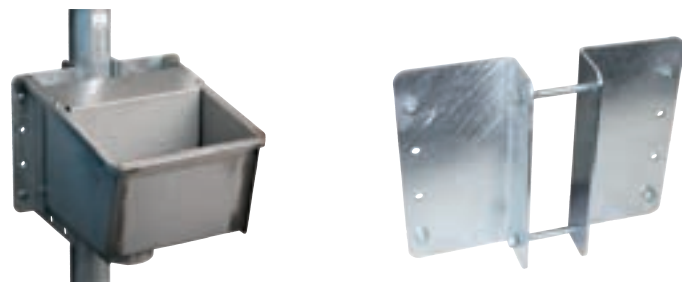
Description	Type	Ref.	Size
			D x W x H (cm)
 <p>    </p>	<p><b>Float Valve Water Trough Mod. 600</b>                      Stainless steel, 3/4" side hookup,                      wall or pipe mounting,                      water flow: up to 50 l/min (at 5 bars),                      capacity: 10 l, large drain</p>	1300600	40x40x49
 <p>    </p>	<p><b>Double Float Valve Water Trough Mod. 620</b>                      Stainless steel, 3/4" side hookup,                      as above but 2 drinking positions,                      water flow: up to 50 l/min (at 5 bars),                      capacity: 18 l, large drain</p>	1300620	74x43x49
 <p>   </p> <p><b>Models for hookup according EN1717 on request available!</b></p>	<p><b>High Pressure Float Valve Maxiflow</b>                      3/4" hookup, water flow: up to 40 l/min at 5 bars</p>	1310700	
	<b>Seal Ring (qty 10)</b>	102049310	
	<b>Drain Plug 1 1/4" Stainless steel troughs</b>	1021490	
	<p>① <b>Auxiliary Heating Element for Mod. 520, 600, 620</b>                      24 V/80 Watt, for Mod. 520, 600, 620 (Two elements necessary for Mod. 520 and 620)</p>	1310524	
	<p>② <b>Valve Heater 24 V/ 7 W</b></p>	1310527	
	<p>③ <b>Frost Protection Heating Cord with Thermostat Control</b>                      (ON at 5 °C; OFF at 15 °C), 24 V / 20 W</p>	381110	L = 200
	<p>④ <b>Frost Protection Heater Cable</b>                      24 V/20 W</p>	381100	L = 200
	<p>⑤ <b>Frost Protection Heater Cable</b>                      24 V/30 W</p>	381101	L = 300
	<p>⑥ <b>Pipe Connection Set 3/4" Mod 500/600/6140</b></p>	1031984	
	<p>⑦ <b>Return Loop Pipe Connection Set 3/4" for Mod. 520/620</b>                      For hook up to a circulating heating system</p>	1033004	
	<p>⑧ <b>Ring line connection set 1" for mod. 520/620</b>                      for hook up to a circulating heating system</p>	1033007	
	<p>⑨ <b>Double Bracket for pipes</b>                      1 1/4" to 2" (pair)</p>	1010179	
	<p>⑩ <b>Guard Bracket for Mod. 480/500/600</b></p>	1311391	
	<p>⑪ <b>Guard Bracket for Mod. 490/520/620</b></p>	1311393	
	<p>⑫ <b>Wall Mounting Bracket 90° for trough drinker Mod. 480/500/600</b></p>	1311050	
	<p>⑬ <b>Guard Bracket for Mod. 480/500/600</b>                      For 90° wall fixation</p>	1311394	
 <p>   </p> <p><b>Bottom drain outlet</b></p> <p><b>Discharge in front</b></p>	<p><b>Float Valve Trough Mod. Cleanobac</b>                      Water flow: up to 36 l/min (at 5 bars),                      1/2" hookup</p>	381690	96x45x32
	<p><b>Heatable Float Valve Trough Mod. Isobac 100 W</b>                      Heater 24 V/2 x 50 W, water flow: up to 36 l/min (at 5 bars),                      1/2" hookup, frost-free down to -20 °C</p>	381649	96x45x32
	<p><b>Heatable Float Valve Trough Mod. Isobac 160 W</b>                      Heater 24 V/2 x 80 W, frost-free down to -25 °C</p>	381603	96x45x32
	<p><b>High Pressure Float Valve</b>                      Hook Up 1/2", colour black</p>	1090955L	
	<b>Seal Ring (qty 20)</b>	1090729	
	<b>Drain Plug for Thermolac ball waterer</b>	1090873	

**NEW**

Type	Ref.	Size D x W x H (cm)	Description
<b>Compact Water Trough Mod. 6140</b> Stainless steel, Maxiflow float valve, 3/4" side hookup left or right, wall or pipe mounting, drain 1", water flow: up to 40 l/min at 5 bars, capacity 30 l	1306140	55x40x29	                
<b>Compact Water Trough Mod. 6150</b> Stainless steel, Maxiflow float valve, 3/4" side hookup left or right, wall or pipe mounting, drain 1", water flow: up to 40 l/min (at 5 bars), capacity 60 l	1306150	100x40x35	
<b>Seal Ring (qty 10)</b>	102049310		
<b>Float Valve</b>	1321065		
<b>Drain Plug 1 1/4" Stainless steel troughs</b>	1021490		
<b>① Auxiliary Heating Element for Mod. 6140</b> 24V/180 W	1316058		
<b>② Auxiliary Heating Element for Mod. 6150</b> 24V/180 W	1316059		
<b>③ Valve Heater 24 V/ 7 W</b>	1310527		
<b>④ Frost Protection Heating Cord with Thermostat Control</b> (ON at 5 °C; OFF at 15 °C), 24 V / 20 W	381110	L = 200	
<b>⑤ Frost Protection Heater Cable</b> 24 V/20 W	381100	L = 200	
<b>⑥ Frost Protection Heater Cable</b> 24 V/30 W	381101	L = 300	
<b>⑦ Pipe Connection Set 3/4" Mod 500/600/6140</b>	1031984		
<b>⑧ Circuit pipe 3/ 4" Mod. 6140</b>	1316049		
<b>⑨ Circuit Pipe Mod. 6150</b> Stainless steel, 3/4" hookup to circulation heater	1316052		
<b>⑩ Double Bracket for pipes</b> 1 1/4" to 2" (pair)	1010179		
<b>⑪ Guard Bracket for compact trough drinker</b> Mod. 6140	1311390		
<b>⑫ Guard Bracket for compact trough drinker</b> Mod. 6150	1311396		



<b>Compact drinking trough mod. 6137</b> Stainless steel with Maxiflow float valve and integrated 3/4" circuit pipe, water flow 30 l/min at 4 bar, capacity 20 l	1306137	45x44x35	  
<b>Holder for compact drinking trough mod. 6137</b> for tube with 102 mm diameter	1311341		



**NEW**

**Maximum 4 bar initial pressure**



**Other models upon request!  
E.g. with stainless steel holder, low series etc.**

**Characteristics and advantages of Flat Tip-Over Troughs**

- Connection to right or left hand side possible by relocation of the valve
- High water inflow up to 40 l / m
- Fast and animal friendly water intake through expansive drinking surface ①
- Easy cleaning due to conical slanting trough tub (stainless steel), with large roundings, without salient corners and edges ②
- Water saving flat drinking trough, less slurry: water savings per tip-over trough up to 25,000 l per year (taken a cleaning interval of 2 days) compared with normal tip-over troughs with 200 l water contents
- Easy access to float valve without tools ③
- Wall and floor mounting ④
- Guard plate to protect the heater cable (optional)
- Heatable by different heating plates: auxiliary heating element ⑤ (inside / outside), circuit pipe ⑥, valve heater ⑦ and frost protection guard

①

②

③

③

⑤

⑥

⑦

⑦



Type	Ref.	Size D x W x H (cm)
<b>Shallow Tipping Water Trough 100 cm (35 l)</b>	<b>1308531</b>	100x58x96
<b>Shallow Tipping Water Trough 150 cm (55 l)</b>	<b>1308532</b>	150x58x96
<b>Shallow Tipping Water Trough 200 cm (75 l)</b>	<b>1308533</b>	200x58x96
<b>Shallow Tipping Water Trough 250 cm (90 l)</b>	<b>1308534</b>	250x58x96
<b>Shallow Tipping Water Trough 300 cm (105 l)</b>	<b>1308535</b>	300x58x96
For floor mounting, stainless steel trough float valve Masterflow, water flow: 40 l/min (at 5 bars), 3/4" hookup		
<b>Shallow Tipping Water Trough 100 cm (35 l)</b>	<b>1308521</b>	106x58x60
<b>Shallow Tipping Water Trough 150 cm (55 l)</b>	<b>1308522</b>	156x58x60
<b>Shallow Tipping Water Trough 200 cm (75 l)</b>	<b>1308523</b>	206x58x60
<b>Shallow Tipping Water Trough 250 cm (90 l)</b>	<b>1308524</b>	256x58x60
<b>Shallow Tipping Water Trough 300 cm (105 l)</b>	<b>1308525</b>	306x58x60
For wall mounting, stainless steel trough, float valve Masterflow, water flow: 40 l/min (at 5 bars), 3/4" hookup		
<b>Float Valve Masterflow Mod. 723</b>	<b>1310723</b>	
<b>Seal Ring (qty 10)</b>	<b>102049310</b>	
<b>① Auxiliary Heating Element Mod. 6060</b>	<b>1316060</b>	
24 V/180 W, for trough length 1.0 m		
<b>② Auxiliary Heating Element Mod. 6061</b>	<b>1316061</b>	
24 V/180 W, for trough length 1.5 m		
<b>③ Auxiliary Heating Element Mod. 6062</b>	<b>1316062</b>	
24 V/360 W, for trough length 2.00 m		
<b>Bracket for heater for shallow tipping trough</b>	<b>1316089</b>	
l = 2.5 m and 3.0 m		
<b>④ Auxiliary Heating Element</b>	<b>1316063</b>	
For direct installation in the trough 24 V/180 W		
<b>⑤ Frost Protection Heating Cord with Thermostat Control</b>	<b>381110</b>	L = 200
(ON at 5 °C; OFF at 15 °C), 24 V / 20 W		
<b>⑥ Frost Protection Heater Cable</b>	<b>381100</b>	L = 200
24 V/20 W		
<b>⑦ Frost Protection Heater Cable</b>	<b>381101</b>	L = 300
24 V/30 W		
<b>⑧ Circuit Pipe</b>	<b>1310591</b>	
Stainless steel, 3/4" hookup to circulation heater		
<b>⑨ Valve Heater 24 V / 7 W</b>	<b>1310527</b>	
<b>⑩ Frost Protection Guard Thermostatic Valve</b>	<b>1310592</b>	
Including drain outlet set, eliminates freezing of the float by constantly supplying a small amount of water during freezing conditions, water supply: approx. 1 - 3 l/min, 3/4" hookup		





**Models for hookup according EN1717 on request available!**

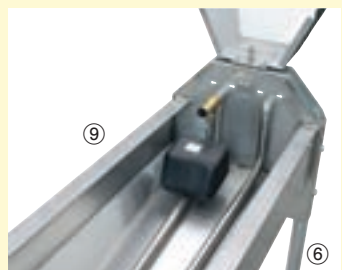
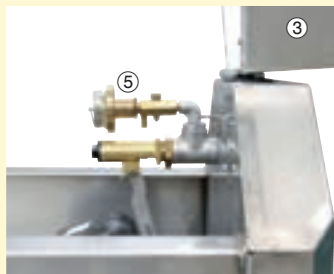


Bottom drain



**Characteristics and advantages of Quick-Drain Troughs**

- High water inflow up to 40 l / m
- Fast and animal friendly water intake through to expansive drinking surface ①
- Little water waste due to Anti-Splash Guard
- Slanting trough tub ② allows easy cleaning (stainless steel)
- Easy access to float valve without tools ③
- Large drainage hole for fast draining. Plug operation outside from the water ④
- Mounting bracket for drainage tube (KG-tube DN125)
- Overflow in drainage plug for use with frost protection guard ⑤
- Wall and floor mounting (mounting feet are optional accessories) ⑥
- Installation of a second float valve possible ⑦ (e.g. low pressure float valve for using preheated water from milk cooling system or additional Maxiflow valve)
- Guard plate to protect the heater cable
- Several heating systems available: ⑧ auxiliary heating element, ⑨ circuit pipe, ⑤ valve heater and frost protection guard
- Plug Holder for easy opening and closing of drainage ⑩



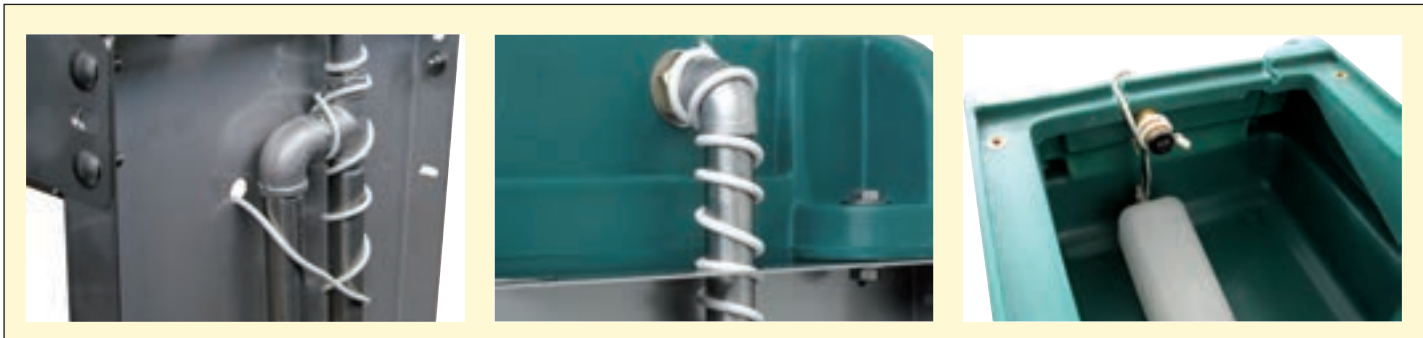
Type	Ref.	Size D x W x H (cm)
<b>Quick-Drain Trough 1.4 m (100 l)</b>	<b>1306714</b>	140x52x48
<b>Quick-Drain Trough 1.9 m (130 l)</b>	<b>1306719</b>	190x52x48
<b>Quick-Drain Trough 2.3 m (160 l)</b>	<b>1306723</b>	230x52x48
<b>Quick-Drain Trough 2.85 m (200 l)</b>	<b>1306728</b>	285x52x48
<b>Quick-Drain Trough 4.20 m (325 l)</b>	<b>1306742</b>	420x52x48
For wall mounting, conical stainless steel trough tub, float valve Masterflow, water flow: 40 l/min (at 5 bars), 3/4" external side hook-up, drainpipe DN125		
<b>Float Valve Masterflow Mod. 723</b>	<b>1310723</b>	
<b>Low Pressure Float Valve</b>	<b>1310738</b>	
3/4" hookup, water flow: up to 19 l/min (at 1 bar)		
<b>Seal Ring (qty 10)</b>	<b>102049310</b>	
<b>Large Drain Plug with O-Ring</b>	<b>1326054</b>	
<b>① Auxiliary Heating Element Mod. 6060</b>	<b>1316060</b>	
24 V/180 W, For trough length 140 cm		
<b>② Auxiliary Heating Element Mod. 6061</b>	<b>1316061</b>	
24 V/180 W, For trough length 190 cm		
<b>③ Auxiliary Heating Element Mod. 6062</b>	<b>1316062</b>	
24 V/360 W, for trough length 2.00 m		
<b>④ Auxiliary Heating Element</b>	<b>1316063</b>	
For direct installation in the trough 24 V/180 W		
<b>⑤ Frost Protection Heating Cord with Thermostat Control</b>	<b>381110</b>	L = 200
(ON at 5 °C; OFF at 15 °C), 24 V / 20 W		
<b>⑥ Frost Protection Heater Cable</b>	<b>381100</b>	L = 200
24 V/20 W		
<b>⑦ Frost Protection Heater Cable</b>	<b>381101</b>	L = 300
24 V/30 W		
<b>⑧ Circuit Pipe</b>	<b>1316064</b>	
Stainless steel, 3/4" hookup to circulation heaters		
<b>⑨ Valve Heater 24 V/ 7 W</b>	<b>1310527</b>	
<b>⑩ Pipe Connection Set 1"</b>	<b>1316067</b>	
For connection to a ring main		
<b>⑪ Guard Plate for pipe connections</b>	<b>1316090</b>	
To protect the water pipe and the heater cable against animal abuse		
<b>⑫ Frost Protection Guard Thermostatic Valve</b>	<b>1310521</b>	
Including drain kit, eliminates freezing of the float with a steady low supply of water during freezing conditions, water flow: approx. 1 to 3 l per minute, 3/4" hookup		
<b>⑬ Legs for quick-drain trough</b>	<b>1316031</b>	L = 89
(1 set = 4 pcs), galvanised, for ground mounting		
<b>⑭ Plug Holder</b>	<b>1316086</b>	
Plug Holder Quick-Drain Trough with cross tube and screws		



Livestock waterers



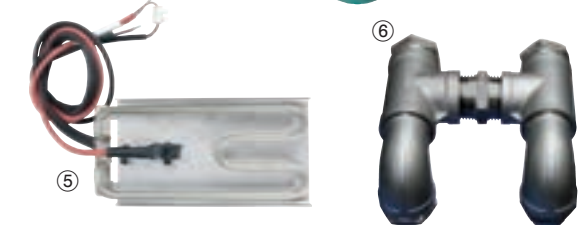
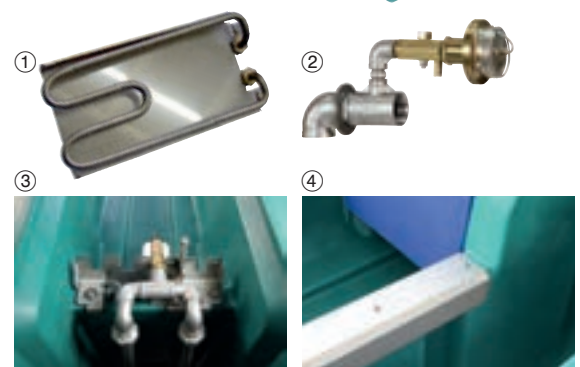
Description	Type	Ref.	Size
			D x W x H (cm)
	<b>Water Trough Mod. 5900</b> Plastic tube made of UV-resistant polyethylene, with sloping bottom, trough capacity: approx. 130 l, stainless steel frame for wall mounting, Maxiflow float valve, 3/4" male thread, water flow: up to 40 l /min (at 5 bars)	1305900	206x45x44
	<b>Water Trough Mod. 5900 for floor mounting</b> Same as Mod. 5900, but with full stainless steel base	1305910	206x45x86
	<b>Seal Ring (qty 10)</b> <b>Drain Plug 1 1/4" Stainless steel troughs</b>	102049310	1021490
	<b>① High Pressure Float Valve Maxiflow</b> 3/4" hookup, water flow: up to 40 l/min at 5 bars	1310700	
	<b>② Low Pressure Float Valve</b> 3/4" hookup, water flow: up to 19 l/min (at 1 bar)	1310738	
	<b>③ Auxiliary Heating Element</b> For direct installation in the trough 24 V/180 W	1316063	
	<b>④ Frost Protection Heating Cord with Thermostat Control</b> (ON at 5 °C; OFF at 15 °C), 24 V / 20 W	381110	L = 200
	<b>⑤ Frost Protection Heater Cable</b> 24 V/20 W	381100	L = 200
	<b>⑥ Frost Protection Heater Cable</b> 24 V/30 W	381101	L = 300
	<b>⑦ Pipe Connection Set 1"</b> For connection to a ring main	1315904	
	<b>⑧ Metal Cover</b> To protect the water pipe and the heater cable against livestock abuse	1315905	
	<b>⑨ Guard Bracket</b> To protect the trough against blows and kicks from animals	1315907	




Type	Ref.	Size D x W x H (cm)
<b>Thermo Water Trough Mod. 6523</b> Double-walled plastic tub made of UV-resistant polyethylene, 10 built-in hold downs, slanting, tapered bottom and large drainage hole, with float valve 700 Maxiflow, hookup: 3/4", drainpipe DN 125, water flow: up to 40 l/min (at 5 bars), capacity: 150 l	1306523	230x70x78
<b>High Pressure Float Valve Maxiflow</b> 3/4" hookup, water flow: up to 40 l/min at 5 bars	1310700	
<b>Low Pressure Float Valve</b> 3/4" hookup, water flow: up to 19 l/min (at 1 bar)	1310738	
<b>Seal Ring (qty 10)</b>	102049310	
<b>Rubber Plug for Thermoquell</b>	1326098	
① <b>Auxiliary Heating Element for thermo water trough</b> for Mod. 6523, 24 V / 180 W, frost-proof up to -30 °C near the valve	1316069	
② <b>Frost Protection Guard Thermostatic Valve</b> Including drain kit, eliminates freezing of the float with a steady low supply of water during freezing conditions, water flow: approx. 1 to 3 l per minute, 3/4" hookup	1310521	
③ <b>Pipe Connection Set 1"</b> To connect the ring main to a circulation heater	1031985	
④ <b>Edge Protector (Bite Damage)</b>	1316065	



<b>Thermo Water Trough Mod. 6543</b> Double-walled, foamed plastic tub (2-part), 12 fixing holes, conical tub with lateral drain, float valve Maxiflow, water flow: 40 l / min at 5 bars, safe water supply up to -10 °C, with heating up to -30 °C, capacity 320 l	1306543	430x60x60
<b>High Pressure Float Valve Maxiflow</b> 3/4" hookup, water flow: up to 40 l/min at 5 bars	1310700	
<b>Low Pressure Float Valve</b> 3/4" hookup, water flow: up to 19 l/min (at 1 bar)	1310738	
<b>Seal Ring (qty 10)</b>	102049310	
<b>Rubber Plug for Thermoquell</b>	1326098	
⑤ <b>Auxiliary Heating Element for thermo water trough</b> for Mod. 6523, 24 V / 180 W, frost-proof up to -30 °C near the valve	1316069	
⑥ <b>Accessories</b> for Mod. 6543	1031988	



 All temperatures given in respect of frost safety relate to the use in livestock buildings without direct influence from wind and weather  
Please order transformer separately (page B187)

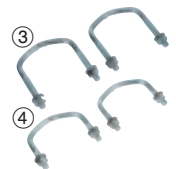


Description	Type	Ref.	Size
			D x W x H (cm)
 	<b>Nose-Paddle Bowl Compact Mod. 1</b> Coated cast bowl, 1/2" hookup from above and below, suitable for circulation heaters, hole distance ca. 80 mm, bore diameter 10 mm	<b>380113</b>	27x20x16
	<b>Nose-Paddle Bowl Compact Mod. 2</b> Enamelled cast bowl, 1/2" hookup from above and below, suitable for circulation heater	<b>380107</b>	26x20x17
	<b>Valve for nose-paddle bowl</b>	<b>389001</b>	
	<b>Inner Valve Sealing for nose-paddle bowl</b>	<b>389003</b>	
	<b>① Guard Bracket for wall and pipe mounting Mod. 2</b>	<b>381355</b>	
	<b>② Mounting Plate for Mod. 380107/380113</b> for 1 1/2" to 2" pipes, (without screws)	<b>38010701</b>	
			
			



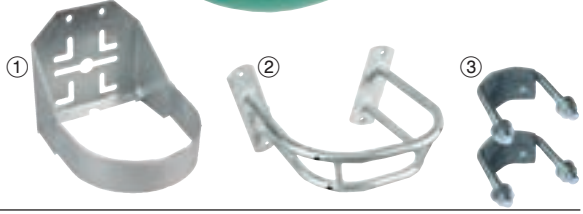




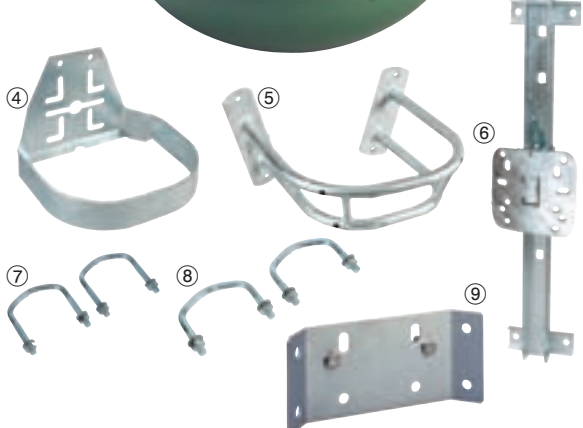




Type	Ref.	Size D x W x H (cm)	Description
<b>Nose-Paddle Bowl Compact PATURA brand</b> Plastic bowl, vertical paddle, 3/4" hookup from above or below, water flow: 15 l/min (at 5 bars), suitable for circulation heaters	380112	33x23x17	
<b>Nose-Paddle Bowl Compact PATURA brand</b> Plastic bowl, horizontal paddle, 3/4" hookup from above or below, water flow: 15 l/min (at 5 bars), suitable for circulation heaters	380111	33x23x17	
<b>Repair Set (5 pcs)</b>	38011101		
<b>T-fitting 3/4" for drinking bowl Mod. Compact</b> nose paddle version, brass made	38011102		
① <b>Guard Bracket for wall and pipe mounting Mod. 3</b>	381356		
② <b>Guard Bracket for wall mounting Mod. 5</b>	381358		
③ <b>Post Bracket</b> For posts up to 75 mm (qty 2)	381316		
④ <b>Post Bracket</b> For posts up to 50 mm (qty 2)	350315		



Description	Type	Ref.	Size D x W x H (cm)
 	<b>Pipe Valve Bowl Mod. Ideal</b> Enamelled cast iron bowl, 1/2" hookup from above and below, suitable for circulation heaters, water flow: up to 9 l/m (at 5 bars)	1000061	26x21x18
	<b>Pipe Valve Bowl Mod. Ideal-K</b> Same as Mod. Ideal, but with plastic-coated iron cast bowl	1000066	26x21x18
	<b>Spare Valve</b> <b>Seal Ring (qty 10)</b> <b>Valve Spring (qty 10)</b>	10201841 102072710 102067310	
	<b>① Guard Bracket for wall and pipe mounting Mod. 2</b>	381355	
  	<b>② Guard Bracket for wall mounting Mod. 5</b>	381358	
	<b>③ Pipe Bracket</b> For 1 1/2" to 2" pipes, (order qty 2)	1310169	
 	<b>Pipe Valve Bowl Compact, stainless steel</b> Stainless steel bowl, pipe valve, water flow: 14 l/min (at 5 bars), 1/2" hookup from above	3801116	30x30x24
	<b>Valve Lower Part with spring</b> <b>Repair Set</b>	38011601 38011602	
	<b>④ Guard Bracket for wall and pipe mounting Mod. 3</b>	381356	
	<b>⑤ Guard Bracket for wall mounting Mod. 5</b>	381358	
  	<b>⑥ Post Bracket</b> for posts up to 80 mm diam. (qty 2)	38011604	
	 	<b>Pipe Valve Bowl Compact PATURA brand</b> Plastic bowl, pipe valve, 3/4" hookup from above or below, water flow: 15 l/min (at 5 bars), suitable for circulation heaters	3801110
<b>Repair Set for nose-paddle bowl Compact</b>		38011001	
<b>Valve</b>		38011002	
<b>⑦ Guard Bracket for wall and pipe mounting Mod. 3</b>		381356	
   	<b>⑧ Guard Bracket for wall mounting Mod. 5</b>	381358	
	<b>⑨ Post Bracket</b> For posts up to 75 mm (qty 2)	381316	
<b>⑩ Post Bracket</b> For posts up to 50 mm (qty 2)	350315		

Type	Ref.	Size D x W x H (cm)	Description
<b>Nose-Paddle Bowl Mod. 115</b> Large, enamelled cast iron bowl, water regulation, stop tap, 1/2" hookup from above and below, suitable for circulation heaters, water flow: approx. 16 l/min (at 5 bars)	1000115	31x24x19	 
<b>Valve</b> <b>Seal Ring</b> <b>Valve Spring (10 pcs)</b>	1020280 10202775 102023410		
<b>① Guard Bracket for wall and pipe mounting Mod. 2</b>	381355		
<b>② Guard Bracket for wall mounting Mod. 5</b>	381358		
<b>③ Double Bracket for pipes</b> 1 1/4" to 2" (pair)	1010179		
<b>Nose-Paddle Bowl Mod. Forstal</b> Plastic bowl, horizontal paddle, water regulation through exchangeable nozzles 0 - 7 bars, water flow: 15 l/min (at 5 bars), 3/4" hookup from above or below	383281	32x24x17	 
<b>Nose-Paddle Bowl Mod. Forstal</b> Plastic bowl, vertical paddle, lockable, water regulation through exchangeable nozzles 2 - 6 bars, water flow: 15 l/min at 5 bars, 3/4" hookup from above or below	383282	32x24x17	
<b>Nose-Paddle Bowl Mod. Forstal T</b> Plastic bowl, hookup from above and below, suitable for circulation heaters	383284	32x24x17	 
<b>Nylon Seal for nose-paddle bowl Forstal</b> <b>Valve Spring (qty 5)</b> <b>Exchangeable Nozzle (S) 2 - 4 bar (qty 10)</b> <b>Exchangeable Nozzle (H) 4 - 7 bars (qty 5)</b> <b>Exchangeable Nozzle (O) up to 1.0 bars, brass</b>	1090945 1090858 1090720 1090859 1090715		
<b>④ Guard Bracket for wall and pipe mounting Mod. 3</b>	381356		
<b>⑤ Guard Bracket for wall mounting Mod. 5</b>	381358		
<b>⑥ Mounting Rail for drinking bowl</b> Height adjustable by 50 cm, 4 fixing points, hot-dip galvanised	350308	74x19x7	
<b>⑦ Post Bracket</b> For posts up to 75 mm (qty 2)	381316		
<b>⑧ Post Bracket</b> For posts up to 50 mm (qty 2)	350315		
<b>⑨ Corner Bracket for drinking bowls</b> Mod. Forstal und Lac 5	381361		





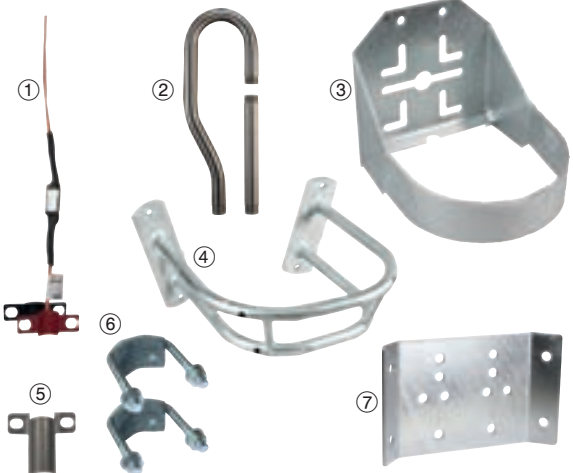
Description

Type

Ref.

Size

D x W x H (cm)



**Pipe Valve Bowl Mod. 25R MS 3/4"**      **1000253**      28x25x21  
 With 3/4" brass valve, large, enameled cast iron bowl, continuous water regulation, hookup from above and below, suitable for circulation heaters, water flow: up to 12 l/min (at 5 bars)

**Pipe Valve Bowl Mod. 25R VA 3/4"**      **1000259**      28x25x21  
 With 3/4" stainless steel valve, otherwise same as Mod. 25R MS 3/4"

**Lower Part for valve with spring, brass**      **10214251**  
**Lower Part for valve with spring, V2A**      **10214291**  
**Seal Ring (qty 10)**      **102072710**  
**Valve Spring (qty 10)**      **102067310**  
**Adjusting Screw with O-Ring (qty 5)**      **10206345**

- ① **Valve Heater 24 V/5 W**      **1011405**  
 With thermostat (ON at 5 °C, OFF at 12 °C), cable 3 m

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- ② **Pipe Connection Set 3/4" Mod. 25R**      **1031983**  
 To connect the ring main to a circulation heater

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- ③ **Guard Bracket for wall and pipe mounting Mod. 2**      **381355**

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- ④ **Guard Bracket for wall mounting Mod. 5**      **381358**

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- ⑤ **Valve Guard**      **1020249**  
 For Mod. 25R, 12P, 18P, 46, 375, 1200, 1200P

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- ⑥ **Double Bracket for pipes 1 1/4" to 2" (pair)**      **1010179**



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- ⑦ **Corner Bracket for drinking bowls Mod. 12P, 25R, 370, 375**      **380150**

Type	Ref.	Size D x W x H (cm)	Description
<b>① Pipe Valve Bowl Mod. 12P MS 3/4"</b> With 3/4" brass valve, large bite-proof plastic bowl, continuous water regulation, hookup from above and below, suitable for circulation heaters, water flow: up to 12 l/min (at 5 bars)	1000123	30x26x24	    
<b>② Pipe Valve Bowl Mod. 12P VA 3/4"</b> With 3/4" stainless steel valve, otherwise same as Mod. 12P MS 3/4"	1000129	30x26x24	
<b>③ Pipe Valve Bowl Mod. 12P "PINK"</b> With 3/4" brass valve, otherwise same as Mod. 12P MS 3/4"	1000122	30x26x24	
<b>④ Pipe Valve Bowl Mod. 12P-HK MS 3/4"</b> Heating through 3 m heater cable (1 m below drinking bowl and 2 m for feed line, 24 V/30 W), frost-free operation down to -20 °C, otherwise same as Mod. 12P MS 3/4", water flow: up to 12 l/min at 5 bars, Residual water can stay and freeze in the bowl	1000124	30x26x26	
 	View from below to the fastening bracket and the heater cable <span style="margin-left: 100px;">View of the heater cable seating (1 m heater cable for drinking bowl and 2 m for feed line)</span>		
<b>Lower Part for valve with spring, brass</b> <b>Lower Part for valve with spring, V2A</b> <b>Seal Ring (qty 10)</b> <b>Valve Spring (qty 10)</b> <b>Adjusting Screw with O-Ring (qty 5)</b>	10214251 10214291 102072710 102067310 10206345		
<b>① Valve Heater 24 V/5 W</b> With thermostat (ON at 5 °C, OFF at 12 °C), cable 3 m	1011405		
<b>② Pipe Connection Set 3/4" Mod. 25R</b> To connect the ring main to a circulation heater	1031983		
<b>③ Guard Bracket for wall and pipe mounting Mod. 2</b>	381355		
<b>④ Guard Bracket for wall mounting Mod. 5</b>	381358		
<b>⑤ Valve Guard</b> For Mod. 25R, 12P, 18P, 46, 375, 1200, 1200P	1020249		
<b>⑥ Pipe Bracket</b> With support plate for pipes 1 1/2" to 2", (order qty 2)	1010167		
<b>⑦ Corner Bracket for drinking bowls</b> Mod. 12P, 25R, 370, 375	380150		



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 Please order transformer separately (page B187)

Description	Type	Ref.	Size D x W x H (cm)
	<b>① Pipe Valve Bowl Mod. 1200 3/4"</b> With 3/4" brass valve, large stainless steel bowl, hookup from above and below, suitable for circulation heaters, water flow: up to 20 l/min (at 5 bars)	1001203	31x26x24
	<b>① Pipe Valve Bowl Mod. 1200 VA 3/4"</b> With 3/4" stainless steel valve, otherwise same as Mod. 1200 MS 3/4"	1001209	31x26x24
	<b>② Pipe Valve Bowl Mod. 1220 3/4"</b> completely out of stainless steel, continuous water regulation, with 3/4" hook from above and below, suitable for circulating heaters, water flow up to 20 l / min at 5 bars	1001229	29x31x24
	<b>③ Pipe Valve Bowl Mod. 1200 P MS 3/4"</b> With 3/4" brass valve, large plastic bowl, UV-resistant polyethylene, with drain in the bottom of the bowl, hookup from above and below, suitable for circulation heaters, water flow: up to 20 l/min (at 5 bars)	1001213	29x31x26
	<b>Lower Part for valve with spring, brass</b> 10214251 <b>Lower Part for valve with spring, V2A</b> 10214291 <b>Seal Ring (qty 10)</b> 102072710 <b>Valve Spring (qty 10)</b> 102067310		
	<b>① Pipe Connection Set 3/4" Mod. 25R</b> 1031983 To connect the ring main to a circulation heater		
	<b>② Return Loop Pipe Connection Set 3/4" for Mod. 1220</b> 1033002 for hook up to a circulating heating system		
	<b>③ Guard Bracket for wall and pipe mounting Mod. 3</b> 381356		
	<b>④ Guard Bracket for wall mounting Mod. 5</b> 381358		
	<b>⑤ Valve Guard</b> 1020249 For Mod. 25R, 12P, 18P, 46, 375, 1200, 1200P		
	<b>⑥ Pipe Bracket</b> 1310169 For 1 1/2" to 2" pipes, (order qty 2)		



Drainage hole with plug in the bottom of the bowl





Type	Ref.	Size D x W x H (cm)	Description
<b>Pipe Valve Bowl Mod. 20</b> Enamelled cast iron bowl, water regulation, 1/2" hookup from above, water flow: 3.5 l/min (at 5 bars)	1000020	23x22x27	 
<b>Pipe Valve Bowl Mod. 10P</b> Rugged plastic bowl, water regulation, 1/2" hookup from above, water flow: up to 10 l/min (at 5 bars), 2.6 l/min (at 0 bar)	1000010	24x23x25	
<b>Lower Part for valve with spring, brass</b> <b>Seal Ring (qty 10)</b> <b>Valve Spring (qty 10)</b>	10214251 102072710 102067310		
<b>① Guard Bracket for wall and pipe mounting Mod. 4</b>	381357		  
<b>② Pipe Bracket</b> For 1 1/2" to 2" pipes, (order qty 2)	1310169		
<b>Pipe Valve Bowl Mod. 375 MS 3/4"</b> Enamelled cast iron bowl, pipe valve infinitely adjustable, with enticement basin, 3/4" hook-up from above and below, corner installation possible, suitable for circulation heaters, water flow: up to 11 l/min (at 5 bars)	1003753	19x24x21	 
<b>Pipe Valve Bowl Mod. 375-VA 3/4"</b> With 3/4" stainless steel valve, otherwise same as Mod. 375 MS 3/4"	1003759	19x24x21	
<b>Lower Part for valve with spring, V2A</b> <b>Seal Ring (qty 10)</b> <b>Valve Spring (qty 10)</b> <b>Adjusting Screw with O-Ring (qty 5)</b>	10214291 102072710 102067310 10206345		
<b>③ Pipe Connection Set 3/4" Mod. 25R</b> To connect the ring main to a circulation heater	1031983		 
<b>④ Valve Guard</b> For Mod. 25R, 12P, 18P, 46, 375, 1200, 1200P	1020249		
<b>⑤ Pipe Bracket</b> For 1 1/2" to 2" pipes, (order qty 2)	1310169		
<b>⑥ Mounting Rail for drinking bowls</b> Height adjustable by 50 cm, 8 fixing points, stainless steel finish	1010433	75x17x4	
<b>⑦ Corner Bracket for drinking bowls</b> Mod. 12P, 25R, 370, 375	380150		  
<b>Pipe Valve Bowl Mod. 370</b> Enamelled, 1/2" hookup from above, water regulation, with enticement basin for attracting lambs, sheep and other sensitive animals, water flow: up to 3.5 l/min (at 5 bars)	1000370	19x19x27	
<b>Lower Part for valve with spring, V2A</b> <b>Seal Ring (qty 10)</b> <b>Valve Spring</b> <b>Adjusting Screw with O-Ring (qty 5)</b>	10214291 102072710 10206805 10206345		
<b>⑧ Pipe Bracket M10 1" - 1 1/2"</b>	1310152		 
<b>⑨ Mounting Rail for drinking bowls</b> Height adjustable by 50 cm, 8 fixing points, stainless steel finish	1010433	75x17x4	
<b>⑩ Corner Bracket for drinking bowls</b> Mod. 12P, 25R, 370, 375	380150		



Description

Type

Ref.

Size

D x W x H (cm)



**Double Pipe Valve Bowl Mod. 19R 3/4"** 1000198 31x27x22  
 Big, enameled cast iron bowl, continuous water regulation, hook-up from above and below, suitable for circulation heaters, water flow: up to 20 l/min (at 5 bars)

**Lower Part for valve with spring, brass** 10214251  
**Seal Ring (qty 10)** 102072710  
**Valve Spring (qty 10)** 102067310  
**Adjusting Screw with O-Ring (qty 5)** 10206345



① **Pipe Connection Set 3/4"** 1031987  
 To connect the ring main to a circulation heater

② **Guard Bracket for wall mounting Mod. 5** 381358

③ **Double Bracket for pipes** 1010179  
 1 1/4" to 2" (pair)



**Double Pipe Valve Bowl Mod. F60 with Anti-Splash Guard** 383060 43x33x20  
 Plastic coated cast bowl, 3/4" hookup from above and below or from left and right, suitable for circulation heaters, water flow: 20 l/min (at 5 bars)

**Pipe Valve complete brass** 4050918  
**Valve Lower Part brass F60** 1090921  
**Seal for Pipe Valve Forstal (qty 5)** 1090882  
**Cap (qty 10)** 1090744  
**Valve Spring (qty 5)** 1090923

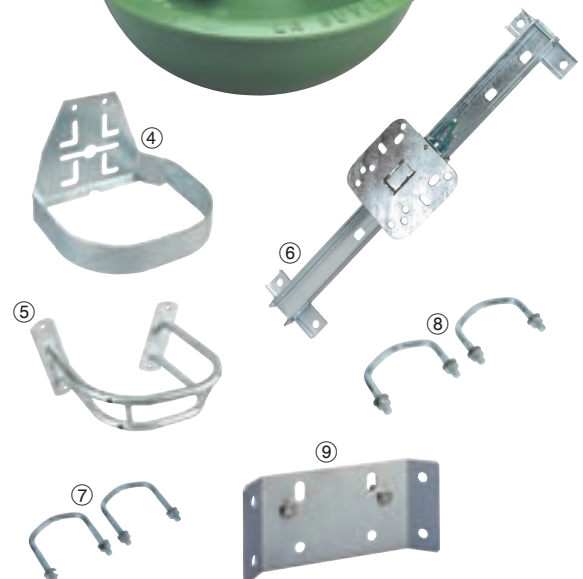
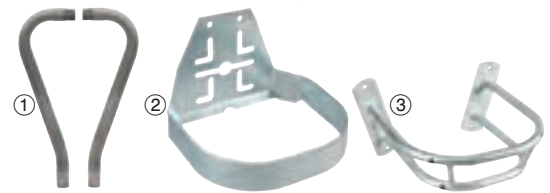


④ **Pipe Connection Set 3/4"** 381367  
 For connection to a ring main

⑤ **Guard Bracket for wall and pipe mounting Mod. 1** 381354

⑥ **Guard Bracket for wall mounting Mod. 6** 381359

Type	Ref.	Size D x W x H (cm)
<b>Pipe Valve Bowl Mod. F30</b> Plastic coated cast bowl, ¾" hookup from above and below or from left and right, suitable for circulation heaters, water flow: 20 l/min (at 5 bars)	383051	25x32x18
<b>Pipe Valve Bowl Mod. F30A with Anti-Splash Guard</b> Plastic coated cast bowl, ¾" hookup from above and below or from left and right, suitable for circulation heaters, water flow: 20 l/min (at 5 bars)	383071	25x32x18
<b>Pipe Valve, complete brass</b>	1090924	
<b>Valve Lower Part brass F30</b>	1090875	
<b>Seal for Pipe Valve Forstal (qty 5)</b>	1090882	
<b>Cap (qty 10)</b>	1090744	
<b>Valve Spring (qty 5)</b>	1090923	
① <b>Pipe Connection Set ¾"</b> For connection to a ring main	381367	
② <b>Guard Bracket for wall and pipe mounting Mod. 3</b>	381356	
③ <b>Guard Bracket for wall mounting Mod. 5</b>	381358	
<b>Pipe Valve Bowl Mod. Forstal</b> Plastic bowl, with pipe valve, 0.5 - 6 bars, continuous water regulation, water flow: 15 l/min (at 5 bars), ¾" hookup from above or below	383283	24x32x17
<b>Pipe Valve Bowl Mod. Forstal T</b> Plastic bowl, ¾" hookup from above and below, suitable for circulation heaters	383285	24x32x17
<b>Pipe Valve for Forstal pipe valve bowl</b>	1090920	
<b>Seal for Pipe Valve Forstal (qty 5)</b>	1090882	
<b>Valve Spring (qty 5)</b>	1090923	
④ <b>Guard Bracket for wall and pipe mounting Mod. 3</b>	381356	
⑤ <b>Guard Bracket for wall mounting Mod. 5</b>	381358	
⑥ <b>Mounting Rail for drinking bowl</b> Height adjustable by 50 cm, 4 fixing points, hot-dip galvanised	350308	74x19x7
⑦ <b>Post Bracket</b> For posts up to 75 mm (qty 2)	381316	
⑧ <b>Post Bracket</b> For posts up to 50 mm (qty 2)	350315	
⑨ <b>Corner Bracket for drinking bowls</b> Mod. Forstal und Lac 5	381361	





Description	Type	Ref.	Size
			D x W x H (cm)
	<b>Float Valve Bowl Mod. 340</b> Large, enameled cast bowl, ½" hookup from right, 5 bars max., capacity 4 l, water flow: approx. 9 l/min (at 5 bars)	1000340	31x26x15
	<b>Float Valve Seal Ring (qty 10)</b>	1020504	102049310
	<b>① Guard Bracket for wall and pipe mounting Mod. 3</b>	381356	
	<b>② Guard Bracket for wall mounting Mod. 5</b>	381358	
	<b>③ Elbow Coupling</b> ½" x ½" female thread, for hookup from above or below	1020352	
	<b>④ Mounting Rail for drinking bowls</b> Height adjustable by 50 cm, 8 fixing points, stainless steel finish	1010433	75x17x4
	<b>Float Valve Bowl Mod. 130P</b> Large, sturdy plastic bowl, ½" hookup from right or left, 5 bars max., capacity 3.9 l, water flow: up to 9 l/min (at 5 bars)	1000130	29x29x18
	<b>Float Valve Bowl Mod. 130PH</b> Integrated heating element 24 V / 20 W with thermostat (ON at 5 °C; OFF at 12 °C), frost-free up to -10 °C around the valve, otherwise same as Mod. 130P	1001305	29x29x18
	<b>Float Valve Seal Ring (qty 10)</b>	1020504	102049310
	<b>Drain Plug</b>	1020258	
	<b>Float Valve complete, low pressure</b>	1020488	
	<b>Float Valve Bowl Mod. 130PN</b> <b>Low pressure float valve</b> Large, sturdy plastic bowl, ½" hookup from right or left, water flow up to 3.5 l/min (at 1 bar) or 1.7 l/min (at 0 bar)	1000131	29x29x18
	<b>⑤ Heating Plate 20 W</b> 24 V - to keep the valve frost-free, with thermostat (ON at 5 °C; OFF at 12 °C)	1011410	
	<b>⑥ Guard Bracket for wall and pipe mounting Mod. 3</b>	381356	
	<b>⑦ Guard Bracket for wall mounting Mod. 5</b>	381358	
	<b>⑧ Elbow Coupling</b> ½" x ½" female thread, for hookup from above or below	1020352	
	<b>⑨ Mounting Rail for drinking bowls</b> Height adjustable by 50 cm, 8 fixing points, stainless steel finish	1010433	75x17x4



Type	Ref.	Size D x W x H (cm)	Description
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<b>Float Valve Bowl Mod. Lac 5</b> Plastic-coated cast iron bowl with drain, capacity: 5.5 l, water flow: 8 l/min (at 4 bars), bottom water hookup to 3/4" horizontal pipe (B) or to 1/2" vertical pipe (A)	<b>381627</b>	31x24x17
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<b>Spare Valve for Mod. Lac 5 / Lac 55</b>	<b>1090965</b>	
<b>Seal Ring (20 pcs)</b>	<b>1090728</b>	
<b>Cap (qty 10)</b>	<b>1090744</b>	
<b>Low Pressure Nozzle</b>	<b>4220510</b>	

<b>① Guard Bracket for wall and pipe mounting Mod. 2</b>	<b>381355</b>	
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<b>② Guard Bracket for wall mounting Mod. 5</b>	<b>381358</b>	
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<b>③ Pipe Bracket</b> For 2" - 3" pipes, (order qty 1)	<b>1010180</b>	
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<b>④ Corner Bracket for drinking bowls Mod. Forstal und Lac 5</b>	<b>381361</b>	
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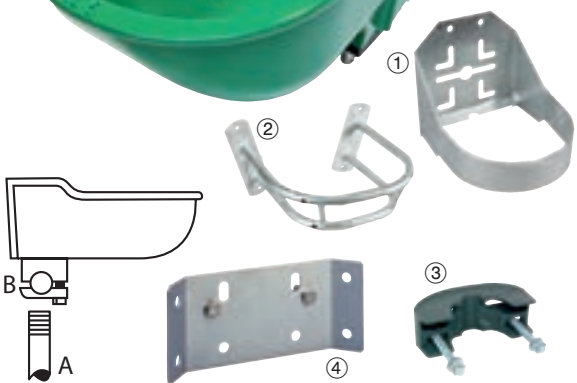
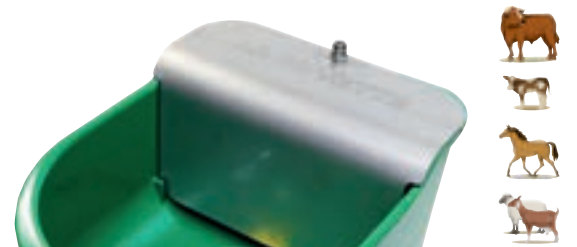
<b>Double Bowl Mod. Lac 55 with Float Valve</b> Plastic-coated cast iron bowl, water flow 8 l/min (at 4 bars), capacity: 6.2 l, bottom water hookup to 3/4" horizontal pipe (B) or to 1/2" vertical pipe (A)	<b>381620</b>	45x24x17
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<b>Spare Valve for Mod. Lac 5 / Lac 55</b>	<b>1090965</b>	
<b>Seal Ring (20 pcs)</b>	<b>1090728</b>	
<b>Cap (qty 10)</b>	<b>1090744</b>	
<b>Low Pressure Nozzle</b>	<b>4220510</b>	

<b>⑤ Guard Bracket for wall and pipe mounting Mod. 1</b>	<b>381354</b>	
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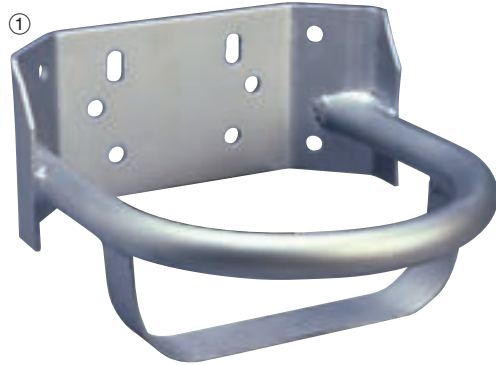
<b>⑥ Guard Bracket for wall mounting Mod. 6</b>	<b>381359</b>	
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<b>⑦ Pipe Bracket</b> For 2" - 3" pipes, (order qty 1)	<b>1010180</b>	
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Description	Type	Ref.	Size D x W x H (cm)
 	<b>Float Valve Bowl Mod. Lac 10</b> Plastic bowl with drain plug, water flow: 7 l/min (at 4 bars), capacity: 5.5 l, 1/2" bottom hookup	<b>383260</b>	26x32x22

① <b>Guard Bracket</b>	<b>381352</b>
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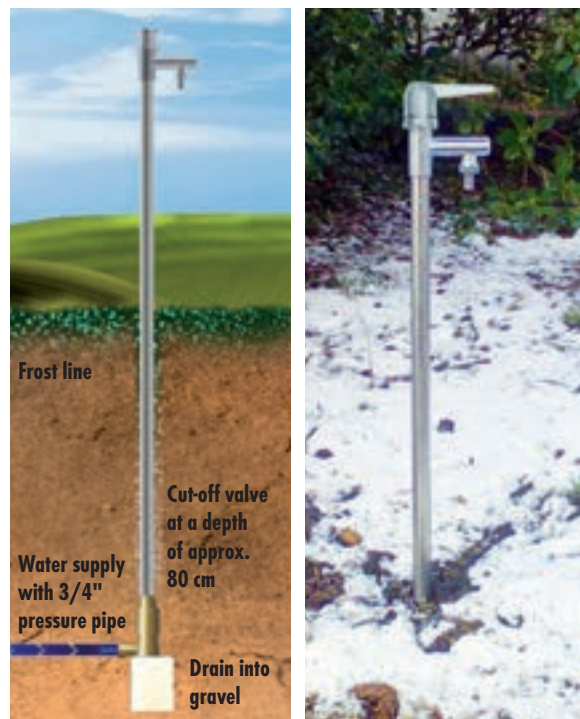


 	<b>Float Valve Bowl Mod. 125</b> Large bowl made of aluminium with plastic lining, with drain plug, 1/2" hookup from right or left, capacity: 2.5 l, water flow: up to 3 l/min (at 5 bars)	<b>1001250</b>	22x22x13
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<b>Float Valve Mod. 125</b> <b>Seal Ring (qty 10)</b> <b>Drain Plug</b>	<b>1021086</b> <b>102049310</b> <b>1020258</b>
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② <b>Elbow Coupling</b> 1/2" x 1/2" female thread, for hookup from above or below	<b>1020352</b>
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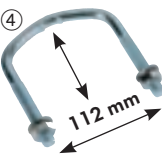


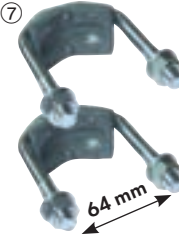
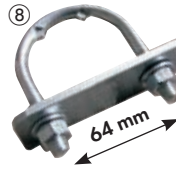
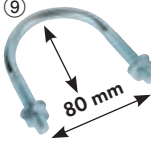
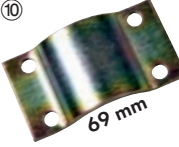


<b>Frost-Proof Yard Hydrant</b> High-quality enclosure parts of chrome-plated zinc die-casting, brass, stainless steel and red brass, inlet and outlet 3/4" each, 2 hose connections possible (down 3/4" AG; forward 3/8" IG); valve mechanism with long-lasting, maintenance-free ceramic discs, standpipe drains completely, maintenance-free shutoff below frost line	<b>383600</b>	82x61x78/148
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**! Provides running water outdoors in winter with no problems!  
No shut-off of external water line necessary**









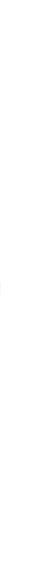


# Brackets for drinking bowls

Type	Ref.	Size D x W x H (cm)	Description
① <b>Clamp 90, fastener for drinking bowls</b> (Mod. 19R, 46, 115, 25R, 12P, 1200, Forstal, Lac 5, Lac 55, F30, F30A, F60, 10P, 20, 340, 370, 375, 130, 350)	303329		
② <b>Clamp 102, fastener for drinking bowls</b> (For Mod. 19R, 46, 115, 25R, 12P, 1200, Forstal, Lac 5, Lac 55, F30, F30A, F60, 10P, 20, 340, 370, 375, 130, 350)	341203		
③ <b>Clamp 76, fastener for drinking bowls</b> (Mod. 19R, 46, 115, 25R, 12P, 1200, Forstal, Lac 5, Lac 55, F30, F30A, F60, 10P, 20, 340, 370, 375, 130, 350)	303469		
④ <b>Post Bracket</b> For posts up to 75 mm (qty 2)	381316		
⑤ <b>Pipe Bracket</b> For 2" - 3" pipes,	1010180		
⑥ <b>Post Bracket</b> For posts up to 50 mm (qty 2)	350315		
⑦ <b>Double Bracket for pipes</b> 1 1/4" to 2" (pair)	1010179		
⑧ <b>Pipe Bracket</b> With support plate for pipes 1 1/2" to 2", (order qty 2)	1010167		
⑨ <b>Post Bracket</b> for posts up to 80 mm diam. (qty 2)	38011604		
⑩ <b>Mounting Plate for Mod. 380107/380113</b> for 1 1/2" to 2" pipes, (without screws)	38010701		
⑪ <b>Pipe Bracket M10 1" - 1 1/2"</b>	1310152		
⑫ <b>Pipe Bracket</b> For 1 1/2" to 2" pipes, (order qty 2)	1310169		

**Note:  
inner  
dimensions!**

# Flexible connection with stainless steel amoured hoses

Type	Ref.	Size D x W x H (cm)	Description
⑬ <b>Flexible Connecting Hose</b> f/f connection 1/2"	380130	60	
⑭ <b>Flexible Connecting Hose</b> f/m connection 1/2"	380131	30	
⑮ <b>Flexible Connecting Hose</b> f/m connection 1/2"	380132	50	
⑯ <b>Flexible Connecting Hose</b> f/m connection 3/4"	380133	30	
⑰ <b>Flexible Connecting Hose</b> f/a connection 3/4"	380134	50	
⑱ <b>Flexible Connecting Hose</b> f/m connection 3/4"	380135	70	
⑲ <b>Flexible Connecting Hose</b> f/f connection 1"	380137	100	



Description

Type

Ref.

Size

D x W x H (cm)



**Especially smooth-running**



<b>Membrane Pasture Pump Aquamat II</b> Including 1" hose connector	<b>380102</b>	75x32x38
<b>Membrane Pasture Pump Aquamat II MK</b> Suckler cow Mod., including 1" hose connector "The mother pumps the water for the calf"	<b>380101</b>	75x40x38

<b>Membrane for pasture pump</b>	<b>1090878</b>
<b>Valve for pasture pump (qty 2)</b>	<b>1090957</b>

① **Spiral Suction Hose, inner diameter 30 mm** **380103**  
(Per metre)

② **Suction Strainer with Check Valve** **380104**  
And 1" hose attachment support

**Pasture Pump - clean water on the pasture**

By multiple operation of the supply lever, the animals pump themselves water from depths of up to 7 m into the drinking bowl. The animals learn to operate the pasture pump very quickly. One pump supplies approx. 15 - 20 cattle. In the suckler cow Mod., the cow pumps the water for the calf. The small drinking bowl at the side is specially designed to suit the mouths of calves. Water constantly flows out of the main bowl, whose size fits larger animals, into the small drinking bowl.

- The animals pump the water themselves from a depth of up to 7 m (1 m vertically = 10 m horizontally; Suevia max. length: 20 m)
- Pump performance: 0.5 litre/lift (La Buvette); 0.4 litre/lift (Suevia)
- Suction basket diam. 58 mm, 1" hookup



Type	Ref.	Size D x W x H (cm)	Description
<b>Pasture Pump Mod. 547</b> Smooth-running membrane pasture pump, operating lever made of cast iron, bowl made of solid UV-resistant polyethylene, incl. hose connector	1000547	68x31x47	 
<b>Pasture Pump Mod. 548 &gt;suckler cow&lt;</b> Same as Mod. 547 but with additional lateral drinking bowl for young stock	1000548	68x42x47	
<b>Membrane for pasture pump</b> <b>Valve Plug for pasture pump</b> <b>Short Bearing Bush (10 pcs)</b>	1020812 1020811 102095510		 
<b>① Spiral Suction Hose, inner diameter 30 mm</b> (Per metre)	380103		
<b>② Suction Strainer with Check Valve</b> And 1" hose attachment support	380104		
<b>Pasture Pump Mod. Winterproof 552</b> Membrane pasture pump mounted on a double-walled and very well insulated mounting base, large service aperture which can be opened without use of tools, ensures easy access to the paraffin heating element, mounting base made of stainless steel, 6 fixing holes for floor mounting, for heating a paraffin heating element inside the enclosure is used, please order separately Ref. 1010550	1000552	76x49x102	  <p>-15°C</p>
<b>Pasture Pump Mod. Winterproof 553</b> Same as Mod. 552 but with additional lateral drinking bowl for young stock	1000553	76x49x102	
<b>Membrane for pasture pump</b> <b>Valve Plug for pasture pump</b> <b>Short Bearing Bush (10 pcs)</b>	1020812 1020811 102095510		
<b>③ Spiral Suction Hose, inner diameter 30 mm</b> (Per metre)	380103		
<b>④ Suction Strainer with Check Valve</b> And 1" hose attachment support	380104		
<b>⑤ Paraffin Heating Element</b> Capacity: approx. 1,70 l, continuous burning up to 5-8 days	1010550		
<b>⑥ Spare Wick for paraffin heater</b> Suitable for pasture pumps Winterproof (qty 2)	1021163		

**Caution:**  
use only petroleum jelly



All temperatures given in respect of frost safety relate to the use in livestock buildings without direct influence from wind and weather



Description	Type	Ref.	Size D x W x H (cm)
	<b>Built-In Float Valve, high pressure</b> Stainless steel housing, plastic valve, can be switched off, connection 1/2", Inlet up to 26 l/min at 5 bar	<b>351601</b>	17x32x26
	<b>Spare Valve for both low and high pressure</b> <b>Seal Ring (20 pcs)</b>	<b>1090867</b> <b>1090728</b>	
	<b>Built-In Float Valve, low pressure</b> (< 1 bar), water flow: 15 l/min (at 0.5 bars) 1/2" hookup	<b>351608</b>	17x32x26
	<b>Spare Valve for both low and high pressure</b> <b>Seal Ring (qty 20)</b>	<b>1090867</b> <b>1090729</b>	
	<b>Built-In Float Valve Mod. Lacabac 72</b> Stainless steel housing, plastic valve, lockable, 3/4" water hookup, water flow: up to 72 l/min (at 3 bars)	<b>350672</b>	27x19x19
	<b>Spare valve</b> <b>Seal Ring (qty 20)</b>	<b>351628</b> <b>1090729</b>	
	<b>Add-On Drinking Bowl Mod. 98</b> For water containers, special cast aluminium, water flow: up to 5 l/min, with flange sealing	<b>380106</b>	29x25x26
	<b>Spare Gasket for mounting flange</b> To fit Mod. 98/180 and Compact <b>Seal Ring (qty 10)</b> <b>Valve Spring (5 pcs)</b>	<b>1021804</b> <b>102049310</b> <b>10204945</b>	
	<b>Add-On Drinking Bowl Mod. 180</b> For water containers, plastic, with flange sealing	<b>1000180</b>	27x25x27
	<b>Spare Gasket for mounting flange</b> To fit Mod. 98/180 and Compact <b>Valve for Mod. 180 P</b> <b>O-Ring 12x4</b>	<b>1021804</b> <b>1021802</b> <b>1021806</b>	
	<b>Add-On Drinking Bowl Compact</b> For pasture water containers, with flange sealing	<b>380114</b>	29x24x20
	<b>Spare Gasket for mounting flange</b> To fit Mod. 98/180 and Compact	<b>1021804</b>	
	① <b>Spare Valve for aluminum pasture water trough</b> 1029803 With seal ring and 2 screws		
	② <b>Guard Bracket for wall and pipe mounting Mod. 2</b>	<b>381355</b>	
	③ <b>Guard Bracket for wall mounting Mod. 5</b>	<b>381358</b>	



## Isothermal Trough Drinker Isobar 250



### Functioning of the thermal drinker Isobar 250

The container is locked by a floating cover, which rises and falls with the water level in the tank. This cover has a hole for drinking, which is also closed with a disk. To get to the water, the animal presses against this cover disk, which gives in very slightly and then moves back into its original position. This prevents heat from dissipating at the top or water getting into the water. Frost-proof in the winter up to  $-15^{\circ}\text{C}$  and keeps clean and cool in the summer.

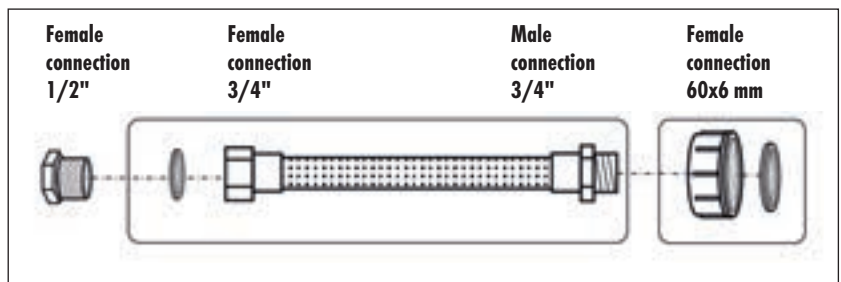
Type	Ref.	Size D x W x H (cm)	Description
<b>Isothermal Trough Drinker Isobar 250</b> Maximum capacity 250l available water 180l (with cover)	<b>381751</b>	<b>Ø 100, H=65</b>	

- Made of UV-resistant, food-grade HDPE
- Water reserve for 1 week for one horse (in winter)
- Hygiene: the water is protected from sun, wild animals and leaves
- Ø100 mm drain with insulating plug
- Interior design without corners and edges for quick cleaning



**Connector Set for IBC-Container 1032020**  
Hookup to drinking bowl 1/2", consisting of reducing adaptor S60 x 6 mm to 3/4" male thread, 70 cm armoured hose, 3/4" female thread, straight reducing adaptor 3/4" male to 1/2" female


**!** When connected to drinking bowl with 1/2" female thread an additional straight pipe nipple with 1/2" male thread is needed



**!** Matching:  
Float valve bowl mod. 130PN (page B214)





Description	Type	Ref.	Size D x W x H (cm)
   	<p><b>Water Trough Mod. 6173, stainless steel</b> for goats and sheep, length: 1.20 m, contents 16 l, water flow: 40 l/min</p> <p><b>Water Trough Mod. 6175, stainless steel</b> for goats and sheep, length: 2.10 m, contents 29.5 l, water flow: 40 l/min</p>	<p><b>1306173</b></p> <p><b>1306175</b></p>	<p>120x18x26</p> <p>210x18x26</p>
 	<p><b>① Auxiliary Heating Element for Mod. 6173/6175</b></p> <p><b>② Pipe Connection Set 3/4" for Mod. 6173/6175</b></p>	<p><b>1316056</b></p> <p><b>1033008</b></p>	<p>24V/180 W</p>
 <p>-10°C</p>  	<p><b>Water Trough Mod. 6155, stainless steel</b> for goats and sheep, length: 2.10 m, water flow: up to 5 l/min (at 5 bars)</p> <p><b>Float Valve</b></p>	<p><b>1306155</b></p> <p><b>1020504</b></p>	<p>200x16x18</p>
	<p><b>Pasture Water</b> Including high pressure float valve, 1/2" hookup, water flow: 8 l/min (at 3 bars)</p> <p><b>Float Valve (qty 1)</b></p> <p><b>Cap (qty 10)</b></p>	<p><b>382253</b></p> <p><b>1090987</b></p> <p><b>1090744</b></p>	<p>160x48x46</p>



Type	Ref.	Size D x W x H (cm)	Description
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**Add-On Double Drinking Bowl Mod. FT80** 1600280 98x40x39  
 for water containers,  
**Capacity: 80 l, rectangular**  
 low pressure float valve (up to 1 bar),  
 3/4" lockable valve,  
 water hookup,  
 with flange sealing



**Float Valve** 1321137  
 Low pressure  
**Seal Ring (qty 10)** 102049310  
**Drain Plug for pasture water troughs and trough drinkers** 1620001

**Add-On Double Drinking Bowl Mod. Biglac 55T** 380105 86x30x30  
 Capacity: 55l, low pressure float valve



**Spare Valve** 1090954  
 (Set with high pressure and low pressure nozzle)  
**Seal Ring (qty 20)** 1090729  
**Cap (qty 10)** 1090744

- With attachment flange for fibreglass and steel water tanks
- Made of polyethylene

**Water Trough for free stalls and pasture Mod. WT30,** 1600030 53x49x30  
**capacity 30 l, rectangular**  
 With high pressure valve,  
 3/4" hookup to the side,  
 water flow: up to 40 l/min (at 5 bars)



**Water Trough for free stalls and pasture Mod. WT30-N,** 1600031 53x49x30  
**capacity 30 l, rectangular**  
 With low pressure valve,  
 3/4" hookup to the side

**High-Pressure Float Valve** 1310754  
**Float Valve for low pressure suitable for Mod. WT30-N** 1310755  
 3/4" connection  
**Drain Plug 1 1/4" Stainless steel troughs** 1021490



① **Guard Bracket for water trough Mod. WT30** 1311301





<b>Pasture Water Trough Mod. Prebac, 70 l, rectangular</b> Including high pressure float valve, 1/2" hookup, water flow: 40 l/min (at 5 bars)	<b>350700</b>	106x39x32
<b>Pasture Water Trough Mod. Prebac, 70 l, rectangular</b> Including low pressure float valve (up to 1.0 bar)	<b>350710</b>	106x39x32
<b>High Pressure Valve</b> (Black) with float, water flow: 40 l/min (at 5 bars), (water pressure 1 - 6 bars)	<b>351603</b>	
<b>Low Pressure Valve</b> (Blue) with float, (water pressure 0 - 1 bar)	<b>351617</b>	
<b>Seal Ring (qty 20)</b>	<b>1090729</b>	
<b>Rectangular Cover Plate for Mod. Prebac</b>	<b>1090874</b>	



<b>Pasture Water Trough Mod. Prebac, 200 l, rectangular</b> 1/2" hookup, order float valve separately	<b>352001</b>	160x46x44
<b>Pasture Water Trough Mod. Prebac, 400 l, oval</b> Order float valve separately	<b>382269</b>	147x105x40
<b>Pasture Water Trough Mod. Prebac, 550 l, oval</b> Order float valve separately	<b>382275</b>	147x105x60
<b>Pasture Water Trough Mod. Prebac, 950 l, oval</b> Order float valve separately	<b>382278</b>	203x115x60
<b>Pasture Water Trough Mod. Prebac, 1500 l, circular</b> Order float valve separately	<b>351501</b>	∅ 200, h=60
<b>Seal Ring (qty 20)</b>	<b>1090729</b>	
<b>Rectangular Cover Plate for Mod. Prebac</b>	<b>1090874</b>	
<b>High Pressure Valve</b> (Black) with float, water flow: 40 l/min (at 5 bars), (water pressure 1 - 6 bars)	<b>351603</b>	
<b>Low Pressure Valve</b> (Blue) with float, (water pressure 0 - 1 bar)	<b>351617</b>	

Type	Ref.	Size D x W x H (cm)	Description
<b>Water Trough for freestalls and pasture Mod. WT 80</b> With high pressure valve 1/2" hookup, water flow: up to 25 l/min (at 5 bars), capacity: 80 l	1600102	98x40x39	 
<b>High Pressure Float Valve Mod. 674</b> 3/4" connection, water flow up to 30 l / min at 4 bar	1310674		
<b>High Pressure Float Valve 1/2"</b> <b>Membrane for float valve Mod. 671 and 674</b>	1320533 1020649		
<b>Drain Plug for pasture water troughs and trough drinkers</b>	1620001		
<b>Water Trough for freestalls and pasture Mod. WT 80-N</b> With low pressure valve for 1 bar max., 3/4" hook-up	1600106	98x40x39	
<b>Low Pressure Float Valve Mod. 675</b> 3/4" hookup, water pressure: up to 1 bar max., water flow: up to 19 l/min (at 1 bar)	1310675		 
<b>Seal Ring (qty 10)</b> <b>Drain Plug for pasture water troughs and trough drinkers</b>	102049310 1620001		
<b>Pasture Water Trough Mod. WT200, 200 l</b> Lateral fixing loops for ground mounting, order float valves separately	1600103	153x54x46	
<b>Pasture Water Trough Mod. WT400, 400 l</b> Lateral fixing loops for ground mounting, order float valves separately	1600104	125x82x63	
<b>Pasture Water Trough Mod. WT600, 600 l</b> Order float valve separately	1600100	140x100x63	
<b>Pasture Water Trough Mod. WT1000, 1000 l</b> Order float valve separately	1600101	180x120x63	 
<b>Seal Ring (qty 10)</b> <b>Membrane for float valve Mod. 671 and 674</b> <b>Drain Plug for pasture water troughs and trough drinkers</b>	102049310 1020649 1620001		
<b>Membrane float valve mod. Easy Flow</b> 1/2" hookup, water flow: up to 25 l/min at 5 bars	1310800		
<b>High Pressure Float Valve Mod. 674</b> 3/4" connection, water flow up to 30 l / min at 4 bar	1310674		
<b>Low Pressure Float Valve Mod. 675</b> 3/4" hookup, water pressure: up to 1 bar max., water flow: up to 19 l/min (at 1 bar)	1310675		
<b>Pasture Water Trough Mod. WT1500, 1500 l</b> Order float valve separately	1600105	220x160x65	 
<b>Seal Ring (qty 10)</b> <b>Drain Plug for pasture water troughs and trough drinkers</b>	102049310 1620001		
<b>High Pressure Float Valve Maxiflow</b> 3/4" hookup, water flow: up to 40 l/min at 5 bars	1310700		
<b>Low Pressure Float Valve</b> 3/4" hookup, water flow: up to 19 l/min (at 1 bar)	1310738		





