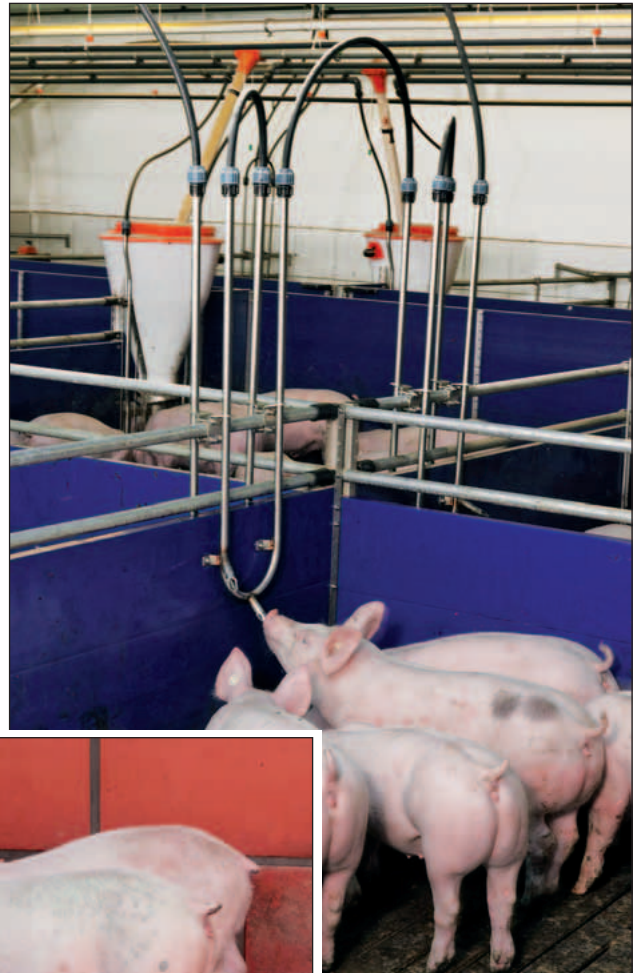
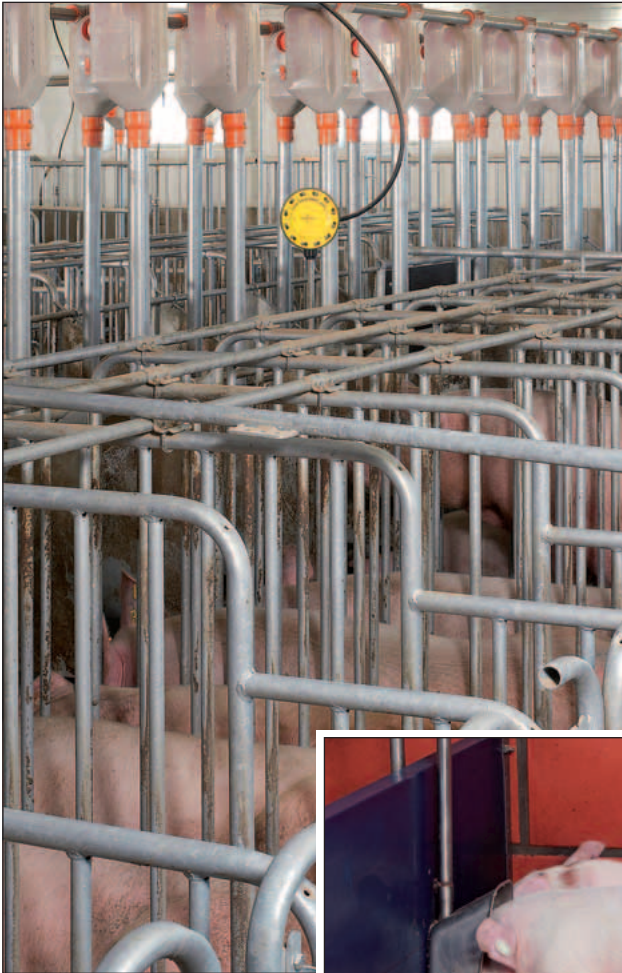




Big Dutchman®



Drinking systems

for sows, piglets and finishing pigs

Drinking systems – for a reliable supply of fresh and clean water

To achieve optimum performance, it is extremely important to provide fresh and clean drinking water. Thus a sufficient supply of clean water within easy reach of the pigs is essential. Big Dutchman satisfies all of these requirements by offering a wide range of different drinking systems, including accessories for sows, piglet rearing and finishing. In modern livestock management this might also include drinking water

disinfection with chlorine dioxide.

Our product range includes:

- nipple drinkers
- drinking bowls
- water connection units
- medicators
- mobile proportioners

Nipple drinkers – provide a sufficient supply of clean drinking water

Nipple drinking systems are a cost-effective solution for clean drinking water. Their greatest advantage is the elimination of contamination. To minimize water losses, the right height is important. When drinking, the pig's head should be inclined upwards so that the water flows directly into the pig's mouth. This is why, in piglet rearing and finishing, the nipples are placed at different heights. To meet market demands with its different needs, Big Dutchman has included a variety of nipple drinkers and the corresponding tubes in its product range.

Included are:

- high pressure nipples for sows;
- high and low pressure nipples for piglets;
- high and low pressure nipples for final finishing;
- vacuum trough floating tubes.

Optionally available are drinking tubes with guard. The guard keeps the pigs from getting hurt at the nipple drinker, for example when stalling out finishing pigs at slaughter weight.



Moistening nipple for sows
- high pressure



Nipple drinker for sows
- high pressure



Nipple drinker for piglets
- high and low pressure
- easy to use from the first day onwards



Nipple drinker for finishing pigs with bite ball
- high pressure
- minimized water wastage as pigs have to take the entire nipple into their mouth in order to drink



Nipple drinker for finishing pigs
- high and low pressure
- with two nipples at different heights
- for pre-finishing and final finishing



Nipple drinker with guard for finishing pigs

In addition, Big Dutchman offers a drinker tube for the supply of 2 pens with a total of 4 nipple drinkers (2 in each pen) as another economic solution. All nipple drinkers as well as the drinker tubes consist of stainless steel and therefore have a long service life. In order to prevent deposits of vitamins or minerals in

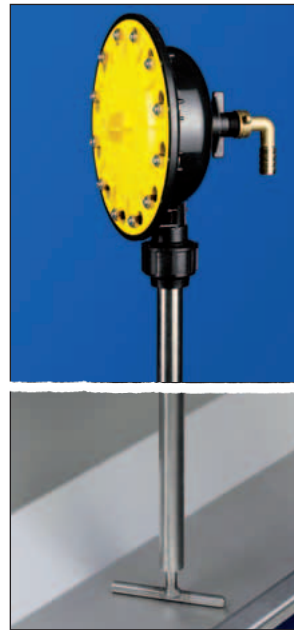
the drinker tube, Big Dutchman furthermore offers a circulation tube for water circulation in their product range. This permits the operator to simply flush all pipelines after use of medication. The circulation tube can also be used for drinking bowls.



Drinker tube for simultaneous supply of 2 pens



Drinker tube with water circulation



Vacuum trough flooding tube for longitudinal troughs - high pressure

Big Dutchman also offers a vacuum trough flooding tube which is used for sows in crates or piglet rearing houses. Water is automatically replenished when the pigs drink from the trough. The longer the row of troughs (max. 25 m / 82 ft per trough flooding tube) the more economic is this type of drinking system.

Drinking bowls – minimal water loss and easy to use

Drinking bowls have few water losses and are accepted very well by the animals. When the animal is drinking, its head disappears in the bowl due to the lateral collar. This also significantly reduces water losses and spillage soiling. The drinking bowls are especially appropriate for suckling pigs, as the pigs can see the water and therefore readily accept this drinker in their first days of life. When placed low enough in the farrowing pen,

the drinking bowls can be used by both sows and piglets.

- Drinking bowls made of stainless steel for suckling pigs;
- Drinking bowls made of stainless steel for piglet rearing;
- Drinking bowls made of stainless steel for finishing;
- Drinking bowls made of enamelled cast iron for farrowing pens.



Drinking bowl for suckling pigs



Drinking bowl with water circulation for weaners up to 35 kg (77 lb)



Drinking bowl for finishing



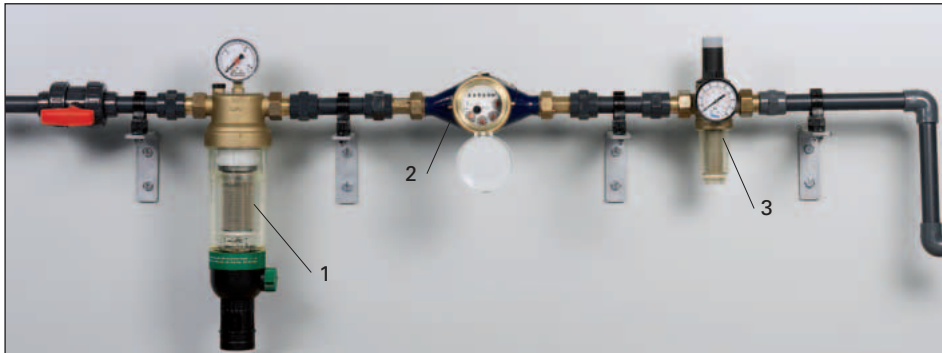
Drinking bowl with valve guard for farrowing pens

Water connection unit – very flexible, custom-made delivery

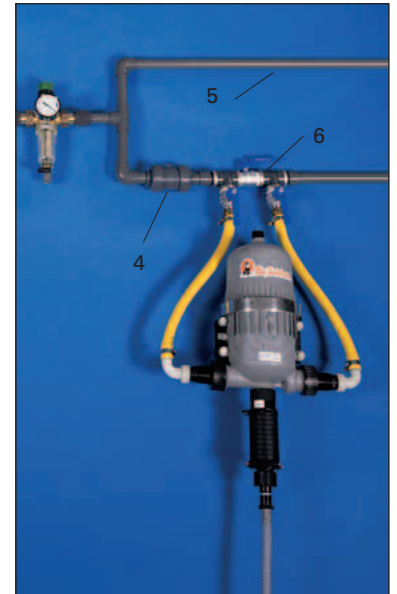
Today, a complete drinking system comes not only with the actual drinker but also with a water connection unit. This unit is installed between the main water supply and the house water line and can consist of different modules that can be put together according to **your** needs:

- 1 filter with manometer to avoid blockage at the nipples – optional reversible flow filter in the event of a high degree of water contamination
- 2 water meter for measuring water consumption –

- 3 optional electronic for connection to a computer
 - 4 pressure reducer with filter – for the protection of excessive supply pressure (max. 3 bar, 43.5 lb/in²)
 - 5 back pressure valve – for medication use in ring circuits
 - 6 fresh water conduit
 - 7 bypass with 3 ball valves for connection to a medicator
- Ball valve for separate drawing-off of water



Water connection units can be delivered with nominal widths of 3/4", 1" and 1 1/2"



Use of a medicator in a ring circuit

BD-water connection units have the following features:

- compact design for a problem-free installation even in small service rooms or the feed kitchen;
- easy assembly and easy to extend as all parts are screwed together, no sticking joints;
- all connecting elements are made of PVC for optimum corrosion protection.

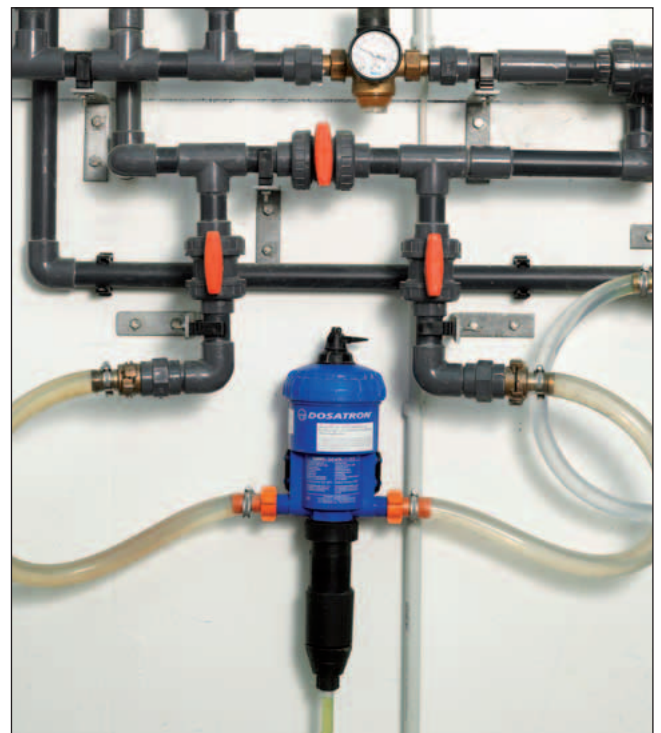
Medicator – for precise metering of medicines via the drinking water

The medicator is installed in the water circuit and meters the correct amount of vitamins and medicines into the drinking water. The amount to be metered out can be precisely adjusted, as the compounds are admitted to the drinking system in proportion to the actual water consumption. Mixing of the respective compound and water takes place at the homogeniser outlet. Thus the motor does not come into contact with the medication used, i.e. no blockages occur, longer service life.

Water-soluble substances are extracted directly out of their original packing.

Advantages of medicators

- precise metering for all flow rates;
- high dosing range and high flow rates;
- long service life and high operational safety due to use of high-quality materials (low sensitivity against a broad spectrum of chemicals) when cleaned regularly;
- selective spare parts kits for rapid replacement of wearing parts.



Water distribution with medicator

Mobile proportioner for dosing additives into the water supply

The broad Big Dutchman product range also includes a new proportioner. The proportioner is used to meter small quantities of liquid additives into the drinking water line.

The proportioner consists of:

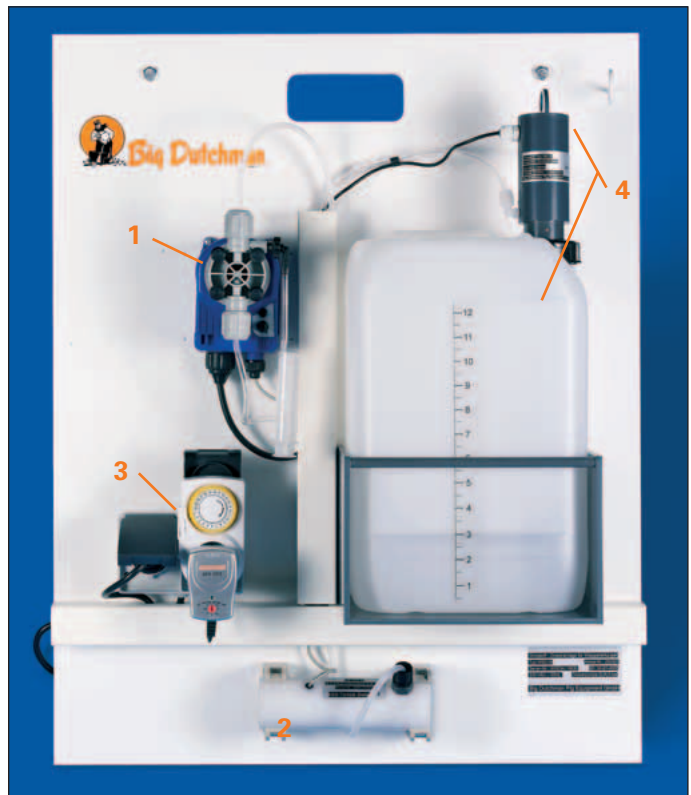
- 1 acid-proof diaphragm pump
- 2 flow meter
- 3 timer
- 4 canister (12.5 l; 3.3 gal) with agitator

To allow for mobile use of the proportioning unit, the individual components are mounted to a plastic plate.

The advantages at a glance:

- compact design;
- easy-to-assemble;
- corrosion-proof.

The agitator is equipped with an integrated suction lance, which is connected to the pump. It can be operated at different speeds and can be switched on or off by means of a timer.



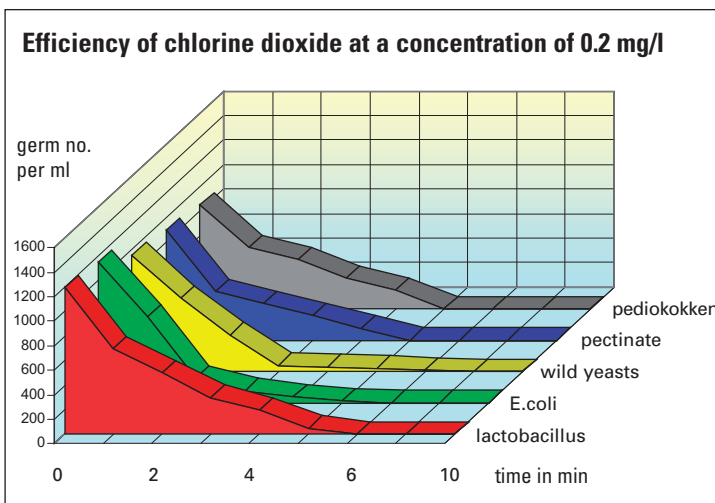
Hygiene management with ClO₂ for better drinking water quality

More safety in the house through drinking water with a low germ count! This is no problem with chlorine dioxide (ClO₂) which is an approved disinfectant for drinking water treatment approved by the German Drinking Water Ordinance and the WHO.

Compared to traditional disinfectants, chlorine dioxide does not have an effect gap. This means it acts as reliable disinfectant against bacteria, spore-forming substances, algae and viruses. It kills quickly (see diagram) and does not have a corrosive effect if used as recommended.

Chlorine dioxide is easy to handle. The disinfection system can be incorporated without much technical effort by the operator. Two components are mixed

together to form ClO₂ and are then dosed out into the drinking water over a proportioner and pump.



The most important advantages at a glance:

- reliably eliminates biofilm in water pipelines and helps to prevent the formation of new biofilm;
- binds iron and manganese => increased operational reliability of drinking nipples;
- only low concentration required: 0.2–0.4 mg ClO₂/l;
- good water-solubility;
- long-lasting effect prevents secondary infections;
- removes taste and odour from the drinking water thus improving the water intake;
- easy to use;
- low costs => approx. 0.25 €/1000 l water.



Mixing tank for medicines, 60 l

If the water supply inside the barn is designed as a circular system, it is possible to install a mixing tank for medicines with a circulation pump. The additive and water are then mixed already with the correct mixing ratio in the tank and are then pumped directly into the barn.

In case of pulverized or viscous materials, a mixing tank with circulation pump (code no. 30-61-3105) should be used.

Specifications of medicators

Type*	Medicator 1	Medicator 2
Code no.	30-62-3540	30-61-3245
Flow rate (l/h, gal/h)	10-2500 2.6-660.5	9-3400 2.4-898.3
Dosing range (%)	0.2 - 2.0	0.2 - 5.0
Working pressure (bar, lb/in ²)	0.3 - 6.0	4.35-87

* Other types available upon request
Always observe the operating and maintenance instructions.

Mixing tank for medicines made of stainless steel with circulation pump



Service room with small and large mixing tank for medicines

Standard values, installation and planning aid

	Live weight		Water demand*		Height drinking bowl**		Height nipple drinker 45°***		Flow rate****	
	kg	lb	l; gal/animal	and day	mm	in	mm	in	l/min	gal/min
Suckling pigs	< 9	20	0.7-1.0	0.2-0.3	80-105	3.1-4.1	150	5.9	0.4-0.5	0.10-1.15
Weaners	< 29	64	1.0-3.0	0.3-0.8	80-105	3.1-4.1	250-550	9.8-21.0	0.5-0.7	0.15-0.19
Finishing pigs	< 50	110	3.0-6.0	0.8-1.6	250-300	9.8-11.8	450-600	17.7-23.6	0.6-1.0	0.16-0.30
	50-80	110-176	5.0-8.5	1.3-2.3	250-300	9.8-11.8	650-700	25.6-27.6	0.8-1.2	0.21-0.32
	80-120	176-265	8.5-11.0	2.3-3.0	250-300	9.8-11.8	650-700	25.6-27.6	1.5-1.8	0.40-0.48
Sows										
- barren/during early pregnancy			8.0-12	2.1-3.2	350-400	13.8-15.7	900	35.4	1.5-1.8	0.40-0.48
- point-of-farrow			10.0-15	2.7-4.0	350-400	13.8-15.7	900	35.4	1.5-1.8	0.40-0.48
- suckling		15+ 1.5/piglet	4+0.4/piglet				900	35.4	2.5-3.0	2.66-0.80
Boar			12.0-15	3.2-4.0	350-400	13.8-15.7	900	35.4	1.0-1.5	0.30-0.40

* These figures are standard values that can vary depending on the climate zone or the type of management.

** upper rim of bowl

*** lower edge of nipple

**** The flow rate of a drinker depends on the water pressure, the pipe cross section and the valve opening. For some drinkers, the flow rate can be adjusted – especially with high pressure nipples. Please observe the operating instructions.



Big Dutchman®

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