



# Big Dutchman®



## **Drinking systems**

Fresh water for rearing and heavier poultry

# Drinking systems: ideal provision of drinking water

Providing your birds with fresh and clean drinking water is essential for their well-being and health.

For this reason, drinking water must be

- ✓ available in sufficient quantities,
- ✓ free from contamination and
- ✓ within easy reach for the birds.

To meet the specific requirements of any type

of poultry, i.e. broilers, turkeys, ducks, breeders and layers, Big Dutchman can offer a wide range of drinking systems, as well as indispensable accessories.

The Big Dutchman product range includes:

- nipple drinkers
- special drinkers for turkeys
- special drinkers for ducks

- bell drinkers
- suspension systems
- water connection units with medicator
- SonicClean

Let our experts advise you towards finding the best drinking system for your individual needs.

## Nipple drinkers

### Hygienic supply of drinking water for your birds

In modern poultry production, nipple drinkers have proven to be both a reliable and a hygienic solution to water provision problems.

The Big Dutchman nipple drinkers can generally be divided into two groups:

- ✓ 360° nipples for vertical and horizontal actuation;

- ✓ nipples for vertical actuation only.

360° nipples are especially well-suited for growing birds, i.e. for broilers and broiler breeders. For the young birds, actuating the nipples horizontally is easier than vertical

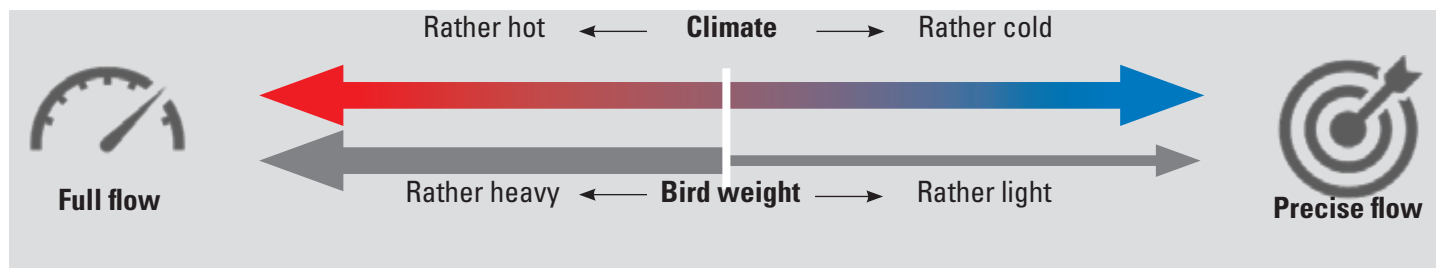
actuation.

The Big Dutchman product range comprises four 360° nipples:

- Top nipple orange
- Top nipple
- CombiMaster
- SteelMaster

Nipple drinkers that are actuated vertically have a higher flow rate and are often installed in broiler breeder houses. An example is the 100 ml screw nipple, which has shown perfect results in the past.

The Big Dutchman nipples are furthermore differentiated according to their flow rate: "precise flow" or "full flow". All nipples are available with a drip cup. The precise flow drinkers can also be used without drip cup. The optimum combination for your needs depends on factors such as the climate, bird weight and hygiene standards. Top nipple, SteelMaster and the screw nipple are made entirely from stainless steel and thus very resistant to acids.



|                           | Top nipple orange                                  | Top nipple  | CombiMaster  | SteelMaster  | Screw nipple             |
|---------------------------|--|---|--|--|--------------------------|
| <b>Suitable for</b>       | broilers, broiler breeder rearing, pullets, layers | broilers, broiler breeder rearing, pullets, layers, broiler breeders, ducks | broilers, broiler breeder rearing, pullets, layers | broilers, broiler breeder rearing, pullets, broiler breeders | broiler breeders, layers |
| <b>Full flow rate*</b>    | ✓<br>40–80   | ✓<br>40–80  | ✓<br>30–50   | ✓<br>30–50   | ✓<br>50 or 100           |
| <b>Precise flow rate*</b> | ✓<br>30–45   | ✓<br>30–45  | ✓<br>25–40   | ✓<br>25–40   |                          |
| <b>Drip cup</b>           | with or without                                    | with or without   | with or without                                    | with or without  | with                     |

\* Flow rate in cm<sup>3</sup>/min for horizontal and up to maximum vertical actuation (20 cm water column)

## Top nipple **orange** and Top nipple

Both Top nipples are 360° nipples, i.e. they can be actuated both horizontally and vertically. They are available as precise flow and as full flow nipples, with or without a

drip cup. These drinkers are the ideal solution for broilers up to a live weight of approx. 5 kg, as well as for layers and broiler breeders. The one-arm drip cup ensures optimum

accessibility for the birds. A two-arm cup is also available and is the best option for heavier birds, such as broiler breeders.



## CombiMaster and SteelMaster

Both CombiMaster and SteelMaster are precise flow nipples that have been developed specifically for broilers. As 360° nipples, they can be actuated both horizontally and vertically. The drip cup is optional. A large

lower pin produces a big and easy-to-see drop, making it simple for day-old chicks to find water. CombiMaster is additionally available with a special drip cup that is attached directly to the nipple. This facilitates

cleaning because there are fewer hidden corners at the drinker pipe. Flushing the nipple pipe is easy since only a small part of the nipple enters the pipe.



## Screw nipple

For broiler breeders and laying hens specifically, Big Dutchman has developed the stainless steel screw nipple with two different flow rates (50 ml and 100 ml). This nipple can only be actuated vertically and must be used with a drip cup. In addition to the one-arm cup, Big Dutchman can provide a two-arm version, which is especially recommended for broiler breeders.



## Parts of a nipple drinker

In addition to the nipples themselves, a nipple drinker system consists of other important parts, which Big Dutchman can offer in

different versions:

- 1 Pressure regulators
- 2 (Flushing) breather units

- 3 Gradient regulators
- 4 Nipple pipes with support and anti-roost wire
- 5 Suspension systems

### 1. Pressure regulators with manual or automatic flushing system

Pressure regulators that also indicate the water column height are an indispensable part of every nipple drinker line. They ensure the correct water pressure inside the drinker

line. In addition to the standard pressure regulator with a manual flushing system, Big Dutchman also offers a pressure regulator with automatic flushing system.

The pressure regulators are available with lateral supply for drinker lines that are up to 60 m long, and with central supply for up to 120 m long lines.



Standard pressure regulator



FC pressure regulator with automatic flushing system

The importance of automatic flushing is increasingly clear, and the Big Dutchman system is by now considered a “must-have” amongst broiler producers. Here is the explanation:  
The risk of a biofilm forming in the drinker line is especially high at the beginning of the batch, when water consumption is low and temperatures in the house are high. Regular manual flushing, however, is very labour-intensive and therefore often nothing more than wishful thinking.

Using Big Dutchman’s **automatic flushing system**, you can guarantee ideal water quality over the entire batch. The system is easy to control with the ViperTouch climate and production computer. Up to 32 FC pressure regulators can be operated with ViperTouch. Flushing starts according to fixed times set in the computer, or when a specific water temperature has been reached. The drinker lines are flushed one after the other. To make sure the electronic water meter does not include the flushing process, the meter

can be bypassed so the water used for flushing is not recorded by the production computer.

The water column height can be changed manually. However, it is much more comfortable to have ViperTouch adjust the water column automatically, depending on water consumption and the inside temperature.

#### Advantages of the FC pressure regulator

- ✓ ideal water supply for your birds at any time;
- ✓ hygienic drinking water due to regular, automatic flushing;
- ✓ automatic adjustment of the water column height for fast reactions to exterior factors;
- ✓ reliable water provision that meets the birds’ needs;
- ✓ control through the ViperTouch computer.



## 2. Breather unit: swivels manually or automatically

The end of every nipple drinker line is equipped with a swivelling breather unit that also indicates the water column height (standard feature).

The automatic breather unit is used together with the FC pressure regulator.

Where the breather connectors have valves, the valves are kept open during normal operation so air can escape.



Swivelling breather unit



Automatic flushing breather

## 3. Gradient regulator

Gradient regulators control the water column, which can rise along the length of the drinker line. They are able to compensate height differences from 10 cm to 45 cm.

To reduce the water column height, either a weight is used (for fixed values), or a spring in case of the adjustable version. The water flow then only starts after the counterpressure caused by the reduction has been exceeded.



Gradient regulator

## 4. Nipple pipe with support and anti-roost wire

Big Dutchman nipple pipes are available in two diameters: 22 mm or 28 mm. Where the birds consume larger amounts of water, e.g. in turkey houses or warmer climates, the

larger diameter is recommended. To support and stabilise the nipple pipe, Big Dutchman offers an aluminium profile or a round tube. A single or a double anti-roost

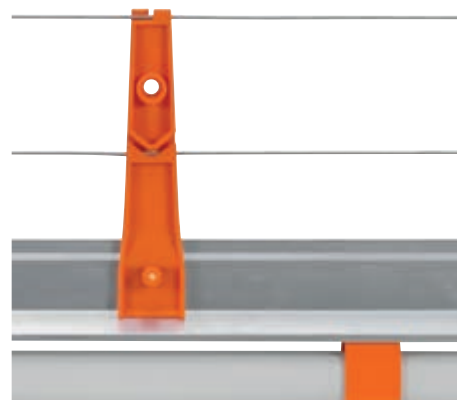
wire stops the birds from perching on the drinker line and thus keeps the weight of the entire line low.



Nipple pipe with 28 mm and 22 mm diameter



Nipple pipe with round tube and single anti-roost wire



Nipple pipe with aluminium profile and double anti-roost wire

## 5. Suspension system

Nipple drinker lines are usually suspended below the ceiling using cables and the corresponding fastening material.

Suspended drinking systems have the advantage that their height can be changed according to the birds' age. When adjusted

correctly, you can ensure that the birds are able to consume sufficient amounts of water and that the litter remains dry.

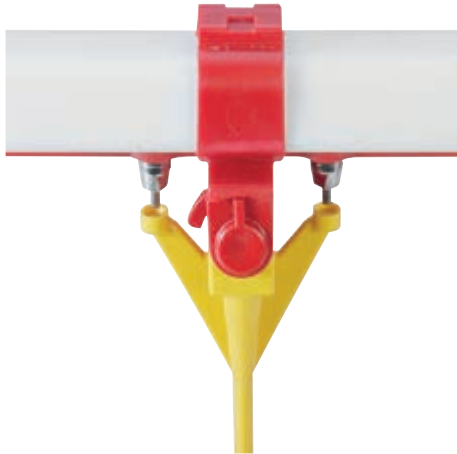
# Penduval 2

## The hygienic drinker specifically made for turkey rearing and finishing

With Penduval 2, Big Dutchman offers a drinker specifically designed for turkeys. This drinker supplies turkeys of every age (even heavy toms with a live weight of more than 20 kg) with sufficient amounts of hygienic drinking water. Penduval 2 consists of a 28 mm nipple pipe, a

two-arm cup reinforced by stainless steel as an open water source and two nipples with a pendulum. Optimum access to drinking water and a very reliable water supply are thus guaranteed. The correct height of the drinking system is very important. When adjusted correctly, the birds' wattle and neck feathers

clean the cup rim whenever they drink. The Big Dutchman turkey drinker is also available with an automatic flushing system.



Two nipples ensure reliable water flow



Penduval 2 for rearing and hen finishing



Penduval 2 for tom finishing

Each time a bird drinks, the bird's head causes the pendulum to move to one side or the other. This opens either the left or the right nipple so water flows along the pendulum and into the cup. At a raised water level, the birds will drink directly from the cup

without actuating the pendulum, thus preventing overflowing. The rearing cup is oval and excellent even for day-old poults. For the first days of rearing, Big Dutchman recommends a starter ball (30 mm diameter)

to increase the water level in the cup slightly. A larger and round cup is available for toms in the final growing phase. It is more stable and safely collects splash water.



The turkeys' wattle keeps the cup rim clean while they drink

# Pekino

## The duck drinker for increased animal welfare

Pekino is a drinker for ducks developed by Big Dutchman in cooperation with the Osnabrück University of Applied Sciences and other experts. The biological requirements of ducks regarding water are met ideally with Pekino. Not only can the ducks easily drink from the cup, they can also wash their bills and submerge their heads entirely thanks to the cup's special design. These are important prerequisites to keep the ducks healthy, and thus lead to ideal fattening results. Furthermore, the ducks are able to carry out their natural behaviour such as dabbling, straining and preening.

Pekino is an additional water source and can be used from day 14 of the batch, in combination with conventional nipple drinkers. The drinker line should be installed above the plastic slats where such flooring is used. A nipple pipe with a diameter of 28 mm is ideal to supply the required water quantities securely.



Pekino allows an optimal water intake



The transparent prototype of the funnel-shaped cup, demonstrating how deeply the ducks can submerge their bills for nostril cleaning and their heads for eye cleaning



## Advantages

- ✓ the deep-drawn, funnel-shaped cup drinker meets the ducks' biological requirements ideally and is therefore a good water source;
- ✓ the mobile pendulum allows the ducks to independently ensure a constant water flow;
- ✓ the ducks' bills can reach all the way to the reinforced cup base so they can strain out all the suspended particles, leaving no deposit;
- ✓ water losses due to overflowing are significantly reduced thanks to a special rim for returning water;
- ✓ Pekino improves the health of the ducks;
- ✓ the requirements in section 11, paragraph 2 of the "Recommendation concerning domestic ducks" of the Council of Europe are met.



The ducks can take in sufficient water to spread over their plumage

# Bell drinkers

## Open water source for all types of poultry

The Big Dutchman product range includes not only nipple drinkers, but also bell drinkers, which differ according to bird type and weight.

The JUMBO-T and JUMBO-98 bell drinkers are the best choice for heavy turkeys from 2 kg to 25 kg live weight.

The JUMBO-B drinker is ideal for turkeys up to a live weight of 12 kg, and for layers and broiler breeders.

Bell drinkers are usually suspended. Thanks to the narrow water jet running along its side, the bell remains clean. The water does not splash over the rim and is thus not wasted.

This stops the formation of ammonia in the house because the litter remains dry. Since the ballast body (JUMBO-T and JUMBO-B) is fitted directly to the suspension system, there is no load on the valve and the water level can be adjusted very precisely.



JUMBO-T



JUMBO-98



JUMBO-B



JUMBO-T for male finishing



JUMBO-98 for female finishing



JUMBO-B in a winter garden for layers

# Suspension systems

## Cable winches to raise the drinker lines

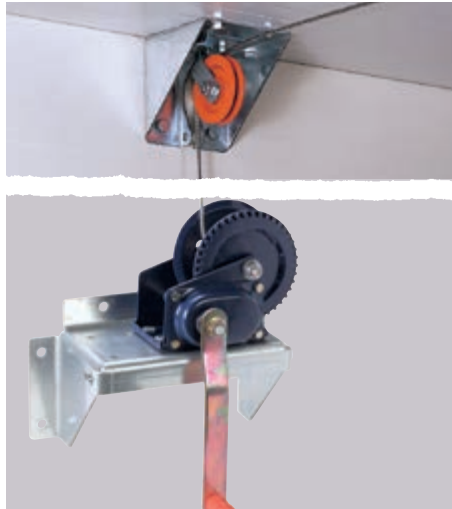
When poultry are kept on the floor, it is very important to adjust the height of the drinker

lines in relation to the birds' age. Easy and sufficient water intake can only be

guaranteed when the birds have to stretch upwards for drinking, without splashing.



Cable winch for ceiling or gable suspension



Cable winch for wall suspension



Electrical cable winch for ceiling suspension

Cable winches are the best option to pull up suspended feed and drinker lines under the ceiling. This also significantly facilitates cleaning and moving birds in and out of the house. The suspension system consists of:

- ✓ cable winch, pulley and fastening material;
- ✓ cable and cable clamp;
- ✓ suspension material.

Big Dutchman offers different cable winches that are operated either manually or electrically:

- cable winch for ceiling or gable suspension with a lifting capacity of 340 kg;
- cable winch for wall suspension, including a crank, with a lifting capacity of 350, 650 or 900 kg;
- electrical cable winch, 0.09 kW,

230/400 V, 50/60 Hz for ceiling suspension, including a limit switch, with a lifting capacity of 320/240 kg.

In addition to the listed winches, Big Dutchman offers several other electrical winches which can be used to raise several feed and drinker lines at the same time.



Cable winches for optimum height adjustment of the drinker lines in relation to the birds' age

# Water connection unit with medicator

## For a better overview and increased functionality

The water connection unit is an indispensable part of the drinking system. It is installed in the service room, between the water system

and the drinker lines. The water connection unit can consist of different components depending on your wishes.

Possible parts include a water filter, a pressure reducer, a bypass for the medicator and a water meter.



- ❶ Filter with manometer to avoid blockage in the nipples – optionally with a reversible flow filter in case of a high degree of water contamination
- ❷ Valve for drawing off water separately
- ❸ Electronic water meter for connection to a computer – for exact measuring of the water consumption (optional: conventional water meter)
- ❹ Bypass with three ball valves for connection of a medicator
- ❺ Mediator for easy and secure prophylaxis
- ❻ Pressure reducer with filter and ball valve for protection against excessive supply pressure and for simple flushing

Standard medicator

Apart from the standard Big Dutchman medicators, the electric E-Dos and E-Dos 1 Touch medicators are new additions to the product range.

For the E-Dos medicator, a water meter measures the current water flow and communicates this value to the controller of the pump unit. This allows for proportional dispensing in addition to the current water flow.

E-Dos 1 Touch is an electrically operated injection pump monitored and driven by an integrated control unit. The medicator is operated via touch screen.



E-Dos medicator



E-Dos 1 Touch medicator

## Advantages

- ✓ compact design, i.e. well-suited even for small service rooms;
- ✓ easy to assemble and easy to extend because all parts are screwed together, no glued joints;
- ✓ all connecting elements are made of PVC for optimum corrosion resistance;
- ✓ available with the nominal diameters  $\frac{3}{4}$ , 1 and 1½ inches.

The **mediator** dispenses the correct quantity of the medicant into the drinking water. The quantity to be dispensed can be adjusted precisely as the medicants are fed into the drinking system in proportion to the actual water consumption. The medicants and the water are mixed at the homogeniser outlet. The motor does therefore not come into contact with the medications used, so no blockages occur and the service life is extended.

Water-soluble medicines are extracted directly from their original packaging.

## Advantages of the medicators

- ✓ precise dosing for all flow rates;
- ✓ adjustable dosing ratio depending on the flow rate for the electrical versions;
- ✓ high dosing range;
- ✓ high flow rate;
- ✓ long service life and high operational safety due to high-quality materials (low sensitivity to a broad spectrum of chemicals when cleaned regularly);
- ✓ simple operation;
- ✓ selective spare part kits for rapid replacement of wearing parts.

## Technical data of the medicators

| Type                                    |     | 1          | 2          | E-Dos 1    | E-Dos 2    | E-Dos 3    | E-Dos 1 Touch |
|---|-----|------------|------------|------------|------------|------------|---------------|
| <b>Dosing range</b>                     | %   | 0.2–2.0    | 1.0–5.0    | 0.01–15    | 0.01–15    | 0.02–15    | 0.01–15       |
| <b>Flow rate</b>                        | L/h | 10–2500    | 10–2500    | 6–2500     | 6–2500     | 6–2500     | 10–2500       |
| <b>Operating pressure</b>               | bar | 0.3–6.0    | 0.3–6.0    | up to 3.0  | up to 3.0  | up to 3.0  | up to 3.0     |
| <b>Code no.</b>                         |     | 30-62-3540 | 30-62-3545 |            |            |            |               |
| <b>Code no. incl. connection set ¾"</b> |     | 30-62-3070 | 30-62-3120 | 61-00-4141 | 61-00-4139 | 61-00-4140 | 61-00-4138    |
| <b>Code no. incl. connection set 1"</b> |     | 30-62-3071 | 30-62-3121 | 61-00-4137 |            |            |               |

## Medicine mixing tank

The medicine mixing tank with agitator has a capacity of up to 60 L and is used for pulverised or viscous substances (code no. 83-55-8852). Since the tank bottom slopes towards the suction pipe, virtually no residues remain inside. Mixing intervals can be defined

using the included time clock. The 12 V motor with a 12 V power supply unit prevents excessive speeds, thus keeping the medicants from foaming.



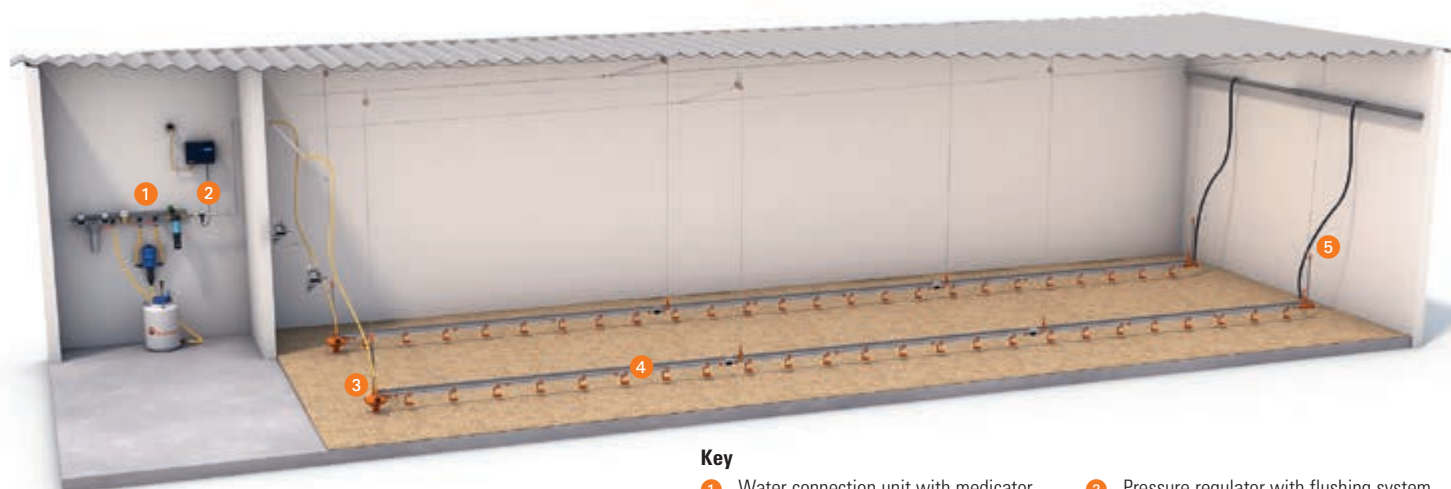
## SonicClean

### Clean drinker lines through ultrasound

SonicClean is a very efficient cleaning method for drinker lines based on the proven ultrasound technology. An actuator that creates sonic waves is installed in the water pipe by means of a T-piece, ideally directly after the water connection unit. The sonic waves are transmitted by the water, reaching every nook and cranny. Deposits become loosened and microorganisms are effectively

prevented from adhering to the pipes. The ultrasound actuator remains active as long as there is water in the drinker line. It consumes very little power: only 0.144 kWh per day. One actuator cleans drinker lines with a length of up to 350 m. When connected to a controller, the system is immediately ready for use as a stand-alone solution.

SonicClean should only be used in combination with a flushing system and for new installations; otherwise, the risk of removed deposits clogging the pipes is too great.



#### Key

- ① Water connection unit with medicator and medicine mixing tank
- ② SonicClean ultrasound cleaning system with controller
- ③ Pressure regulator with flushing system
- ④ Drinker line
- ⑤ Flushing outlet

# Technical data

| No. of birds per nipple*       | Top nipple orange |            | Top nipple   |            | CombiMaster  |            | SteelMaster  |            | Screw nipple<br>100 ml |
|--------------------------------|-------------------|------------|--------------|------------|--------------|------------|--------------|------------|------------------------|
|                                | Precise flow      | Full flow  | Precise flow | Full flow  | Precise flow | Full flow  | Precise flow | Full flow  |                        |
| <b>Code no.</b>                | 30-00-3442        | 30-00-3414 | 30-00-3207   | 30-00-3419 | 30-00-3663   | 30-00-3570 | 30-00-3462   | 30-00-3455 | 30-00-1026             |
| <b>Broilers</b>                | 8–10              | 18–20      | 8–10         | 18–20      | 12–14        | 18–20      | 8–10         | 12–14      |                        |
| <b>Broiler breeder rearing</b> | 8–10              | 10–15      | 8–10         | 10–15      | 10–12        | 10–15      | 8–10         | 10–12      |                        |
| <b>Broiler breeders</b>        |                   |            |              | 10–12      |              |            |              | 8–10       | 10–12                  |
| <b>Duck rearing</b>            |                   |            |              | 25–30      |              |            |              |            |                        |
| <b>Duck finishing</b>          |                   |            |              | 8–12       |              |            |              |            |                        |
| <b>Pullet rearing</b>          | 8–10              | 10–15      | 8–10         | 10–15      | 10–12        | 10–15      | 10–12        | 10–12      |                        |
| <b>Layers</b>                  | 6–8               | 10–12      | 6–8          | 10–12      |              | 10–12      | 6–8          |            | 10–12                  |

Number of nipples per pressure regulator: 300

| Bell drinkers                              | JUMBO-T    | JUMBO-98   | JUMBO-B    |
|--|------------|------------|------------|
| Code no.                                   | 30-03-3170 | 30-02-3200 | 30-03-3100 |
| Recommended no. of birds per bell drinker* |            |            |            |
| Turkeys 2 – 25 kg                          | 80–120     | 80–100     | -          |
| Turkeys 0 – 12 kg                          | -          | -          | 80–100     |
| Broiler breeders and layers                | -          | -          | 100–150    |
| Broilers                                   | -          | -          | 100–150    |
| Day-olds**                                 | -          | -          | 300        |
| Diameter (mm)                              | 480        | 305        | 400        |
| Total height (mm)                          | 650        | 500        | 640        |
| Rim height (mm)                            | 70         | 95         | 60         |
| Weight without ballast (kg)                | 1.9        | 1.0        | 1.75       |
| Capacity of ballast tank (L)               | 7          | -          | 7          |
| Optimum water level in the rim (mm)        | 10–20      | 40–50      | 10–20      |

\*\* with spacer ring only

Minimum operating pressure: 0.2 bar, maximum operating pressure: 0.5 bar

| Penduval 2           | No. of birds/nipple* |
|----------------------|----------------------|
| Turkey rearing       | 30–40                |
| Turkey hen finishing | 25–30                |
| Tom finishing        | 20                   |

| Pekino         | No. of birds/nipple* |
|----------------|----------------------|
| Duck finishing | 40–60                |

\* The number of birds per drinker has to be reduced proportionally for very heavy birds and in hot climates. Additionally, country-specific regulations may require different bird numbers.

## Recommendations:

For broilers, install one drinker line for every 2.5 m to 3.5 m of house width. In general, there should always be at least one more drinker line than feed lines.

For broiler breeders, install one drinker line for every 5 m to 7 m of house width.

For turkey hen and tom finishing, install one drinker line per feed line.

Big Dutchman also offers a wide range of fount and cup drinkers. Our experts will be pleased to offer advice.

To achieve dry litter and good results, the relevant assembly, user and operation manuals should be followed.



# Big Dutchman.

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