



# Big Dutchman®



## **NATURA** Nova

for organic, free range and barn egg production  
– our classic system for high animal welfare, functionality and efficiency –

# NATURA Nova

## Welfare, functionality and efficiency form a successful unit with this aviary

Big Dutchman has more than 30 years of experience with aviary systems: an advantage that we use for our customers' benefit. NATURA is an aviary system that is focused on the welfare of the birds, without disregarding functionality and efficiency, which are very important to egg producers. As an equipment supplier, we aim at developing management systems in which laying hens can use the different functional areas to exhibit their natural behaviours and in which they lay many eggs, all under hygienic conditions. Our NATURA Nova aviary meets these requirements in an ideal manner. However, this does not release us from our job of further developing and optimising our systems, which we continuously do in cooperation with our customers.

Not only do we look at the aviary itself, but also at such important factors as the best lighting concept and the appropriate ventilation system.

NATURA Nova is a very versatile system and can be used for free range and barn egg production, for organic and traditional egg

production, and in large as well as smaller houses. Moreover, selecting NATURA Nova always

means selecting an animal-friendly egg production system.



## Advantages of NATURA Nova

NATURA Nova is our aviary classic. Its signature feature is that the bottom nest and the feed and water sources are all on the same level. The aviary is characterised by the following advantages:

- ✓ the hens can easily reach the nest, which increases nest acceptance;
- ✓ the raised connection aisle helps with daily bird inspection since it provides farm staff with a good overview of the flock;
- ✓ the stepped design means that the birds

need to make only short jumps so they can easily switch between the functional areas for resting, eating and drinking, and egg laying;

- ✓ 100 percent of the house's floor is scratching area, which means much room to move for the hens;
- ✓ the large usable area ensures good utilisation of the house surface;
- ✓ the manure belts below the levels collect most of the manure and transport it out of

the barn, decreasing the ammonia content in the air and improving hygienic conditions;

- ✓ the pullets quickly get used to the aviary after they are moved in because feed and water are easy to find; at the beginning, the system is easily closed off with netting;
- ✓ the clever design reduces hotbeds for mites and increases welfare.



# Cross sections and arrangement of the individual elements

We offer NATURA Nova in a well-thought-out number of versions. Our product range includes the following aviary types, from which you may select the most suitable one depending on your barn's height and width and the available usable area:

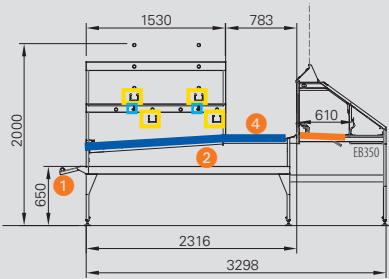
- ✓ NATURA Nova 270 1t (one tier)

- ✓ NATURA Nova 270 2t (two tiers)
- ✓ NATURA Nova 280
- ✓ NATURA Nova 284
- ✓ NATURA Nova 280 Twin

The main differences between these systems are their height and width, the number of manure belt levels and the number of nest

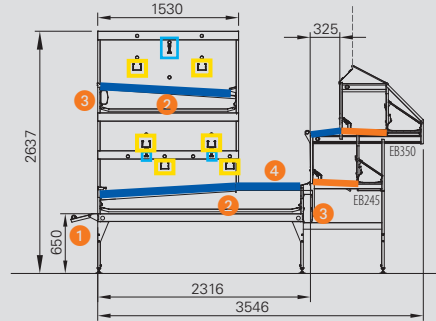
rows. The NATURA Nova Twin series always consists of two NATURA Nova rows. This creates a portal, which provides the layers with much room to scratch. Every NATURA Nova aviary is well-suited for organic, free range and barn egg production.

## NATURA Nova 270 1t



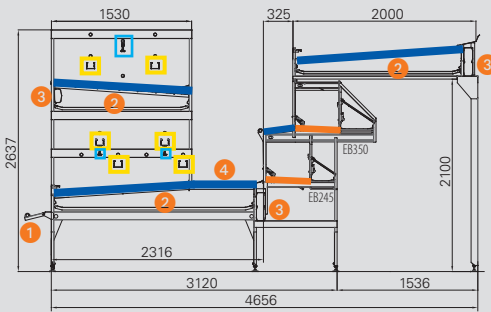
Ideal for barns with low ceilings

## NATURA Nova 270 2t



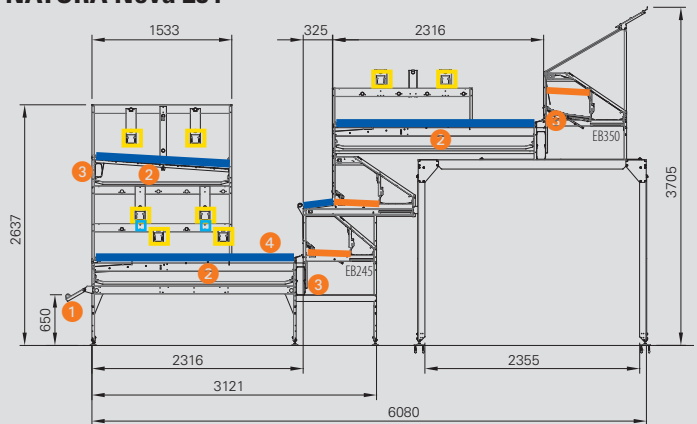
Ideal for organic egg production with winter garden

## NATURA Nova 280



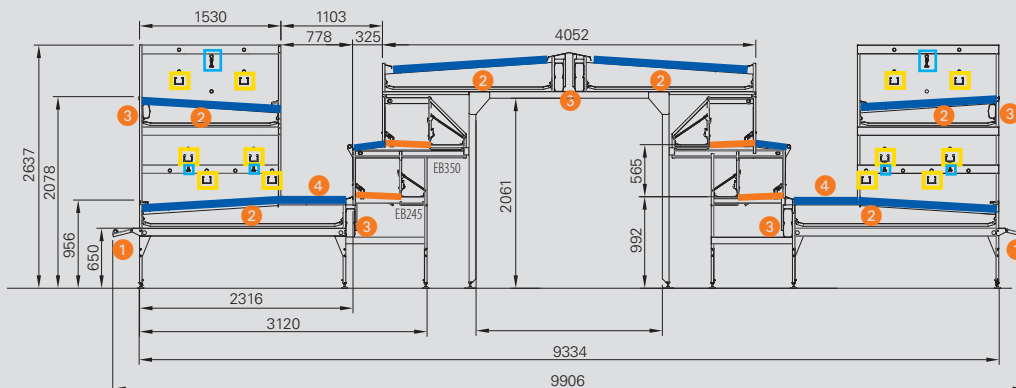
Ideal for barns with narrow longitudinal compartments of 6 to 8 m

## NATURA Nova 284



Ideal for wide barns for organic and free range egg production

## NATURA Nova 280 Twin



Ideal for barn and free range egg production where the house's winter garden is not part of the usable area

### Key

- 1 Approach aid
- 2 Manure belt level
- 3 Air duct (optional)
- 4 Connection/inspection aisle

The different functional areas are arranged in a way that animates the hens to move around in the system.

- Orange Nest surface area
- Blue Usable area
- Yellow Feed
- Blue Water

All dimensions in mm



## Resting zone

The top level is used as a resting zone. Equipped with both feed lines and perches, it is possible to install one or two additional feed lines as an option, depending on the stocking density.

The accumulating manure drops onto the manure belt below and can be dried by means of an optional air duct.



## Colony 2+ group laying nest

We have integrated our Colony 2+ group laying nest into the aviary. The nest is easy to enter, has a soft insert and a divided tilting floor.

Before this tilting floor closes the nest for the night, all eggs still inside it roll off backwards onto the egg belt. The hens thus use the nest for egg laying only, which prevents soiling.

A special gap allows the hens to poke their heads out of the nest should it become overcrowded.



## Lower tier

The lower tier is equipped with four feed lines and two drinker lines, which are very easy to reach. This allows the layers to eat and drink without being disturbed.

The accumulating manure drops onto the manure belt below and can be dried by means of an optional air duct.



## Scratching area

The hens can use the entire house floor as a scratching area. This scratching area should be well lit, especially below the portal. Hens will then lose interest in laying eggs here.

Our litter reduction system (optional) removes manure and excess litter automatically, if necessary, which helps reduce dust.



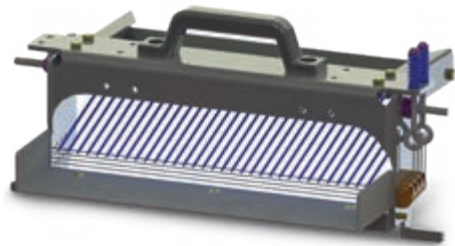
Longitudinal egg collection with vertical conveyors



Transfer from longitudinal belt to cross belt

## Egg collection

We can offer multiple egg collection concepts we have tested extensively, including vertical conveyors and rod conveyors. Due to the stepped design of the nests, such conveyors are ideal solutions for reducing the number of transfer points to the cross collection system to a minimum. As a consequence, egg transport is very smooth. Vertical conveyors are often preferred when there is little space between the nests and the cross collection. Our product range additionally includes lift systems and elevators. Please check our brochure "Egg collection systems" for more information.



## EggTrax with special transfer unit

The EggTrax drive has a special transfer unit (optional) that ensures safe and smooth egg transfer from the longitudinal belt to the vertical conveyor or rod conveyor. EggTrax has the following advantages:

- ✓ anti-crack fingers ensure a controlled egg transfer to the cross belt or the vertical conveyor;
- ✓ the transfer unit can be removed single-

handedly and be cleaned with a high-pressure cleaner;

- ✓ the rope transfer (optional) transfers the eggs very smoothly while simultaneously allowing feathers, dust and eggs without shell to fall down between the threads;
- ✓ an integrated egg belt brush keeps the egg belts clean.



The portal offers a large scratching area and makes monitoring the nest and the egg flow on the longitudinal belt easier for the farm staff

## Longitudinal egg belts

The exterior longitudinal egg belts are easy to reach and allow the farm staff to check nests and eggs. Covers protect the eggs from dust. The central egg belt with its high share of triangular holes ensures that eggs stay clean and have a stable position on the belt.



Automatic system egg collection

## System egg collection

Due to the slight gradient of the wire floor, eggs mislaid in the system (system eggs) roll towards the sheet metal perch. They remain safely under this perch until they are collected manually.

As an option, we offer an automatic system for collection of these eggs.



## Manure removal end set

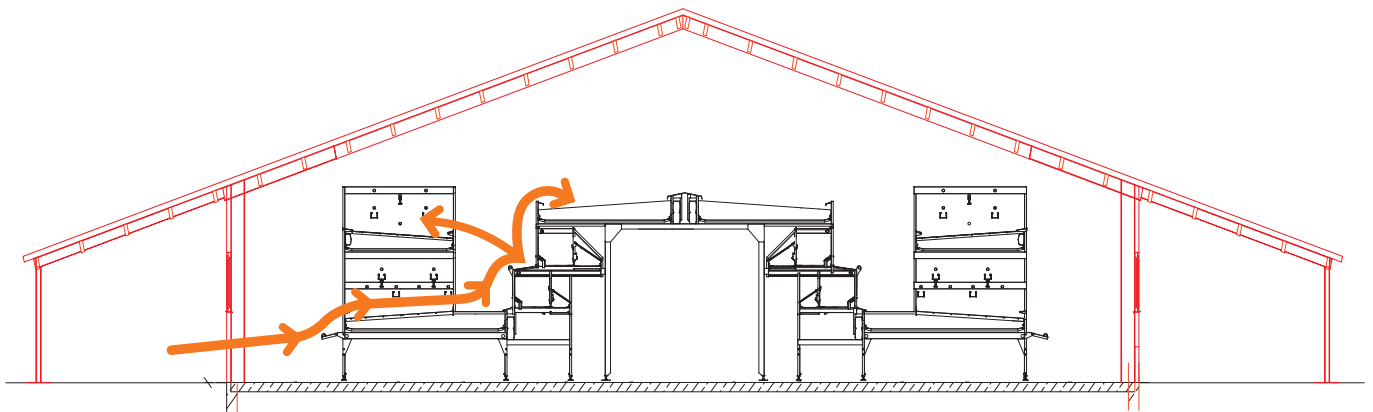
The NATURA Nova aviary is easily accessible from the manure removal end set via stairs that lead to the inspection aisle. The manure chutes are blocked off by robust curtains, thus neatly closing the system in the manure removal area.

## NATURA Nova with winter garden

Winter gardens allow a gradual transition from the barn to the free range. The birds thus have the option of going outside even when the weather is bad. A roller curtain keeps out rain,

storms and the cold. Due to the stepped and asymmetric structure of all NATURA Nova systems and the easy access to the aviary provided by this design

feature, the aviary is well-suited for organic and free range egg production.



The hens can reach all functional areas with short jumps



- ✓ The layers can use the roofed winter garden as an additional scratching area when the weather is bad.
- ✓ A concrete floor stops nutrients from entering the soil uncontrolled.
- ✓ The winter garden can be cleaned easily and thoroughly after each batch for increased hygiene.
- ✓ Options for enrichment, e.g. boxes for dust baths or our PickPuck, which simultaneously promotes beak smoothing, can be installed both in the winter garden and in the barn (check our flyer "PickPuck" for more information).

# The correct lighting concept for optimal light distribution in the barn

A customised lighting program for the barn significantly contributes to successful egg production. Big Dutchman therefore recommends using the following lamps, all of them suitable for livestock facilities:

- 1 energy-efficient LED panel light Zeus for aisle lighting, optionally available with different LED boards, installed crosswise
- 2 BD moisture-proof lamp for aisle lighting

- 3 energy-efficient tube lamp FlexLED for lighting inside the system

A well-working lighting program is a prerequisite for the hens to stay in the aviary at night instead of in the scratching area. The light under the aviary should switch off first in the evening, followed by the lateral aisle lighting, and finally the ceiling lighting together with the optional system lighting.

This will significantly reduce the number of floor eggs. Furthermore, the layers will immediately find feed, water and the nest in the morning.



LED panel light Zeus, dimmable

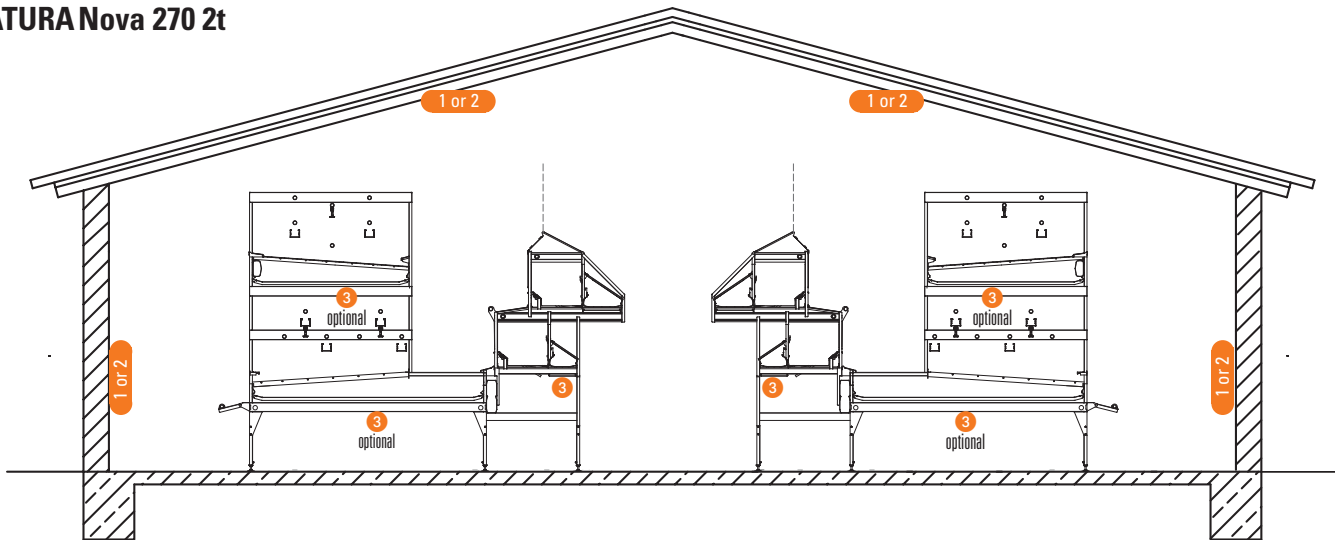


BD moisture-proof lamp, dimmable

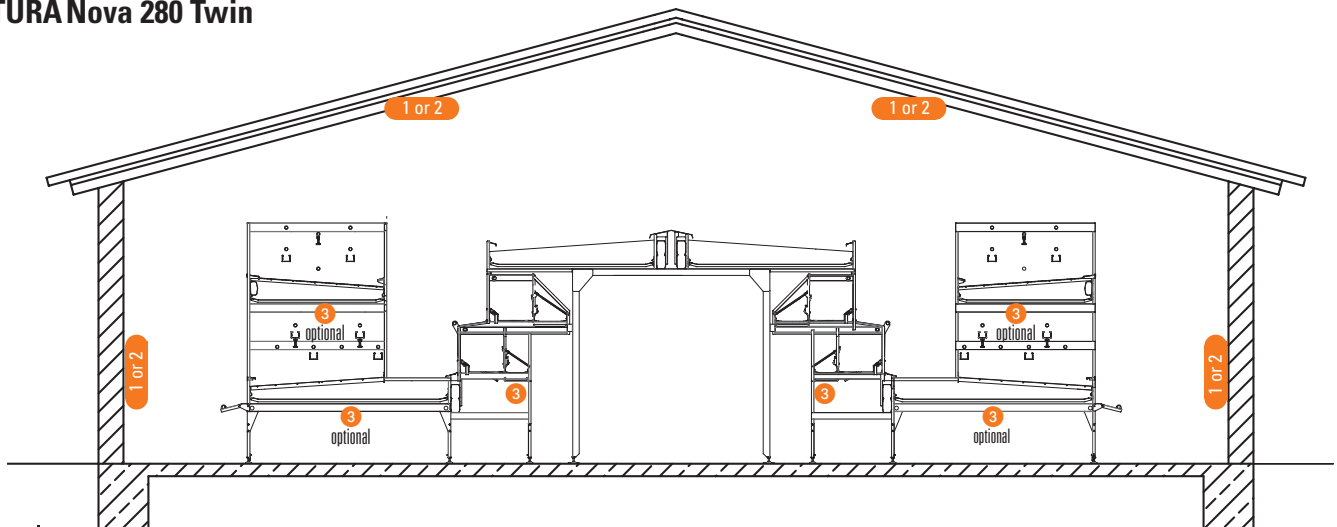


FlexLED tube lamp, dimmable

## NATURA Nova 270 2t



## NATURA Nova 280 Twin



# The adequate ventilation concept for ideal climate conditions in the barn

An exactly fitting ventilation concept in the barn is an important factor in successful egg production. Big Dutchman can provide the best solution for every customer. The ventilation concepts

below, for barns both with and without attic, create ideal climate conditions. The following fresh and exhaust air elements can be used:

1 CL 1200 or CL 1900 wall inlet

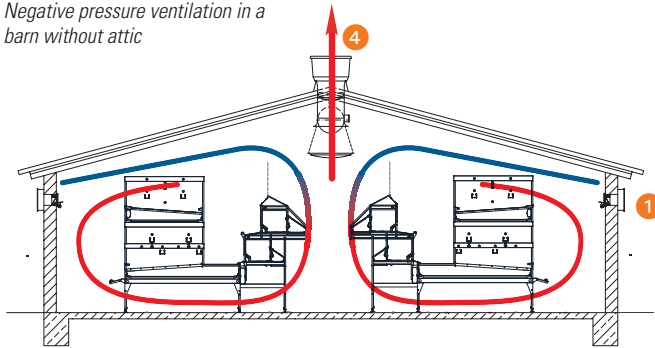
2 CL 1540 ceiling inlet

3 FAC or Fumus fresh air chimney

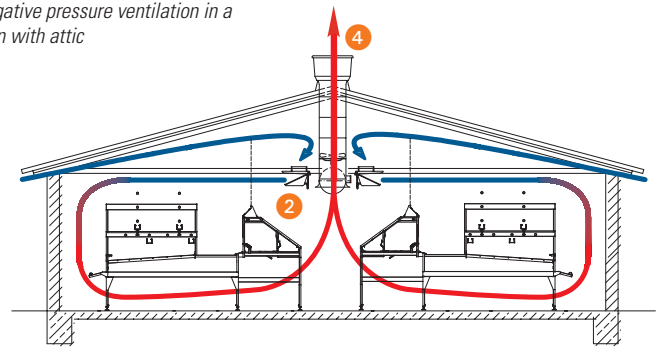
4 CL 600 or CL 920 exhaust air chimney

5 AirMaster wall fan

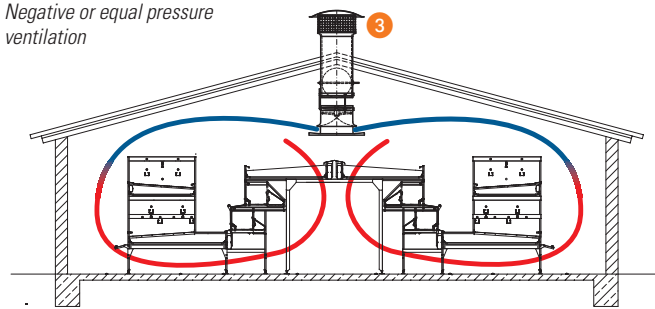
Negative pressure ventilation in a barn without attic



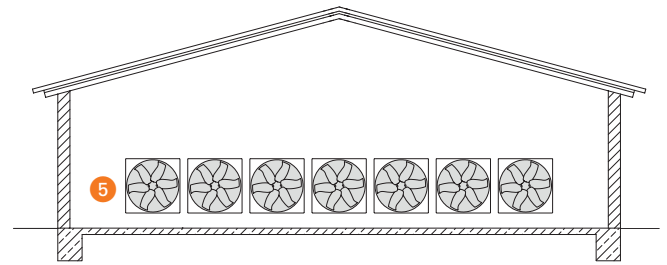
Negative pressure ventilation in a barn with attic



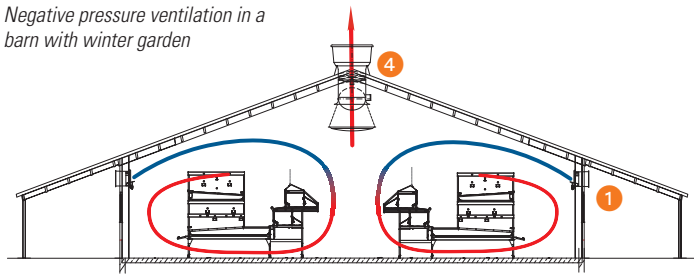
Negative or equal pressure ventilation



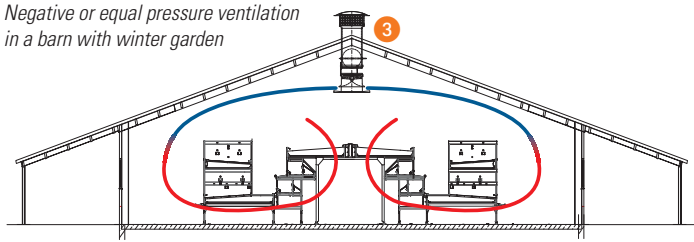
Exhaust air extraction through the gable



Negative pressure ventilation in a barn with winter garden



Negative or equal pressure ventilation in a barn with winter garden



In addition to exhaust air chimneys, wall fans are also an option. They are installed in the rear gable end and draw the air lengthwise through the barn. This ventilation concept is called tunnel ventilation and is recommended as an addition to the exhaust air chimneys, especially in the summer.

In case of free range egg production, the pop holes are open during the day, making pure negative pressure ventilation difficult to realise. Instead, switching to equal pressure ventilation may be an alternative during these periods. The fresh air chimneys FAC or Fumus are installed on the barn's roof. The exhaust air chimneys in the gable end draw the air lengthwise through the barn.



## Big Dutchman

**Europe, Middle East & Africa:**  
**Big Dutchman International GmbH**  
 P.O. Box 1163 · 49360 Vechta, Germany  
 Tel. +49(0)4447 801-0 · Fax -237  
 big@bigdutchman.de  
 www.bigdutchman.de

**USA: Big Dutchman, Inc.**

Tel. +1 616 392 5981 · bigd@bigdutchmanusa.com  
 www.bigdutchmanusa.com

**Brazil: Big Dutchman (Brasil) Ltda.**

Tel. +55 16 2108 5310 · bdb@bigdutchman.com.br  
 www.bigdutchman.com.br

**Russia: 000 "Big Dutchman"**

Tel. +7 495 229 5161 · big@bigdutchman.ru · www.bigdutchman.ru

**Asia/Pacific: BD Agriculture (Malaysia) Sdn. Bhd.**

Tel. +60 3 334 83 555 · bdasia@bigdutchman.com · www.bigdutchman.com

**China: Big Dutchman (Tianjin) Livestock Equipment Co., Ltd.**

Tel. +86 10 6476 1888 · bdcnsales@bigdutchman.com  
 www.bigdutchman.org.cn