



Big Dutchman®



NATURA & Manure pit systems

for alternative layer management

Manure pit systems, fully-slatted and NATURA manure belt systems for alternative layer management

Alternative layer management includes barn egg production, free-range production and organic egg production. According to the EU-Directive 1999/74 of 19 July 1999, **barn egg production** has to comply with the following standards:

- ✓ 250 cm² of littered area per hen, the littered area has to be a minimum of one third of the floor surface area;
- ✓ 9 hens/m² usable area, of at least 30 cm width, floor slope must not exceed 14 % or 8° and headroom

- must be at least 45 cm;
- ✓ 120 hens/m² group laying nest or 7 hens/single nest;
- ✓ 15 cm perch/hen – perches must not be installed above the littered area, the horizontal distance between the perches has to be at least 30 cm, horizontal distance between perch and wall at least 20 cm;
- ✓ 10 cm of linear feeders/hen;
- ✓ 10 hens/drinking nipple.

Free-range production must additionally comply with the following standards:

- ✓ the pop holes have to be at least 35 cm high and 40 cm wide; 200 cm of total opening width for every 1000 hens;
- ✓ shelter in the free-range area.

Additional standards for the production, processing and marketing of organic eggs are established in the EU-Eco-regulation.

Whatever production method of alternative layer management you choose, we can offer you a system to optimize production and management. An ideal housing concept comprises of carefully considered and coordinated individual components – feed, water, nests, perches, manure removal and climate control. This is a central prerequisite for healthy hens and high laying performance. Our modern housing systems are carefully designed to fulfill these requirements in all details. They are very concise and can be fitted into the majority of barns.



Feed supply

Feed is supplied with the well-proven Big Dutchman chain feeding system. Its advantages are well known:

- ✓ the **Champion** feed chain distributes the feed rapidly and uniformly throughout the house;
- ✓ the maintenance-free 90° corner ensures a trouble-free feeding circuit;
- ✓ additional perching is supplied by incorporating a tubular perch above the trough which ensures no soiling of the feed below;
- ✓ rugged plastic legs capable of withstanding the effects of manure ensure a long service life;
- ✓ reliable, long-lasting technology.



Feed trough with perch



90° Corner with Champion feed chain



Plastic legs, depending on the manure pit also available with 4 and 8° gradient

Water supply

In order to provide the laying hens with clean and hygienic drinking water, we recommend the use of nipple drinkers. These can be installed in the barn either standing and/or suspended depending upon your requirements. The suspended version is equipped with an anti-perch wire. High-flow stainless steel nipples with single arm drip cups (small or large) ensure a good accessible readily available water supply while assisting in maintaining dry manure in the pit or belt below.



Nipple drinkers standing and suspended



Top nipple orange with large drip cup



Top nipple with small drip cup

A-frame perches made of metal – raised resting area with feed and water supply for increased comfort

The A-frame models 3000 and 5800 from Big Dutchman are made of metal and are well suited for use on manure-pit or fully-slatted houses. Hens naturally like to perch at night and our simple well designed systems encourage this natural behaviour, in addition feed and water can be incorporated within the lines.

The A-frame 5800 can be equipped with up to 8 perches, two feed lines and one water line. This system provides full flexibility to meet your specific stocking requirements.



A-frame 5800 with 6 perches, two feed lines and a water line



A-frame 5800

The A-frame 3000 is designed to run the length of the manure pit, it has 3 perches and can incorporate feed and water lines if required. Thanks to its low weight it can easily be winched up to the ceiling, for example during cleaning which helps to reduce labour requirements.



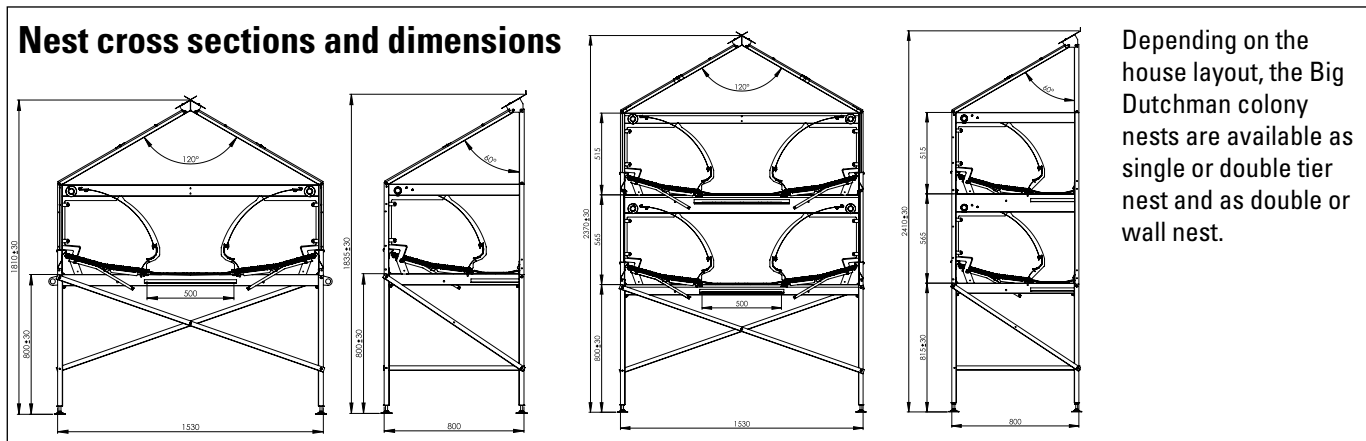
A-frame 3000 with 3 perches and feed line

Group laying nests – well accepted by the hens, for excellent egg quality

In addition to an adequate supply of feed and water, the correct laying nest

plays an important role in alternative laying management. The reduction of

floor eggs, dirty eggs and cracked eggs is a crucial factor for economic success.



Group laying nest Colony 2+

Colony 2+ and Colony MB have the following advantages:

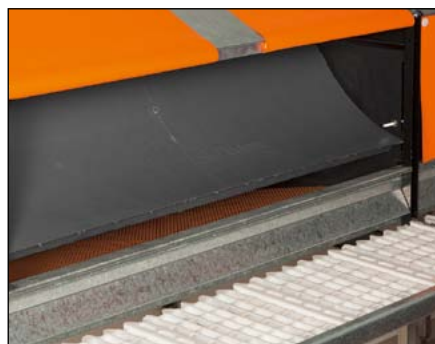
- ✓ short rolling-off distance for the eggs
→ excellent egg quality
→ low percentage of hair-cracked eggs
- ✓ slight inclination in the rear area of the nest
→ smooth rolling-off of the eggs to the egg belt
- ✓ well-thought out, wood-free nest design with folding roof
→ easy nest inspection
→ easy-to-clean
→ effective mite control
→ low maintenance



Group laying nest Colony 2+ – the tilting floor closes off the nest after the laying phase

Features of the Colony 2+ nest

- ✓ tilting nest floor closes the nest after the laying phase
→ daily dirt drops off the nest mat
→ the nest remains clean
→ low percentage of dirty eggs
- ✓ hinged tilting floor
→ eggs left in the nest roll off automatically to the egg belt
- ✓ 53 cm deep nest → 153/305 hens per tier wall/double nest



Group laying nest Colony MB with expel system open/closed

Features of the Colony MB nest

- ✓ the rear wall closes off the nest automatically after the laying phase
→ hens are locked out from the nest at night
→ the nest remains clean
→ low percentage of dirty eggs
- ✓ 50 cm deep nest
→ 144 hens per tier wall nest
→ 288 hens per tier double nest

Manure pit/manure removal

To improve the hygiene in the barn, a section of the barn should be designed as manure pit equipped with plastic slats. With both feeder and drinker lines located above the manure pit, this is the area where the majority of the droppings are deposited.

For manure storage and removal, three different systems are available:

- ✓ The manure is stored in an approximately 80 cm deep pit during the entire laying period. After the laying period, the manure pit is dismantled and the manure is removed from the house.
- ✓ The manure drops into 30 - 60 cm deep manure channels. The fresh manure is removed daily by a scraper which is pulled by a stainless steel cable. If combined with a drying system, the dry manure is removed from the channels every 8 - 12 weeks by means of a special scraper system.
- ✓ Manure belts are installed beneath the slats, as is the case with NATURA-Floor and NATURA-Nova 1t; for an optimal house climate, the manure should be removed at least once every week, based on the stocking density and the length of the rows.



Manure pit for storage of excrements during the entire laying phase



Longitudinal supports for wide manure pits



Manure scraper for daily removal of fresh manure

Integra plastic slats

The Integra plastic slat developed by Big Dutchman is ideally suited for laying hens. Its advantages are:

- ✓ exceptionally hygienic due to the smooth surface;
- ✓ provides a secure foothold for the hens;
- ✓ small surface area → good manure penetration, the slats stay very clean during the entire laying phase;
- ✓ no contact surface between the slats → easy and thorough cleaning → no hotbed for mites or other parasites;
- ✓ no sharp edges or corners → no danger of injury;
- ✓ easy to install;
- ✓ high durability, long service life.

We recommend:

The manure should be as dry as possible and should not be stored in the house any longer than absolutely necessary. This reduces fly problems, minimizes the concentration of ammonia in the house air and thus creates ideal conditions for a hygienic environment.



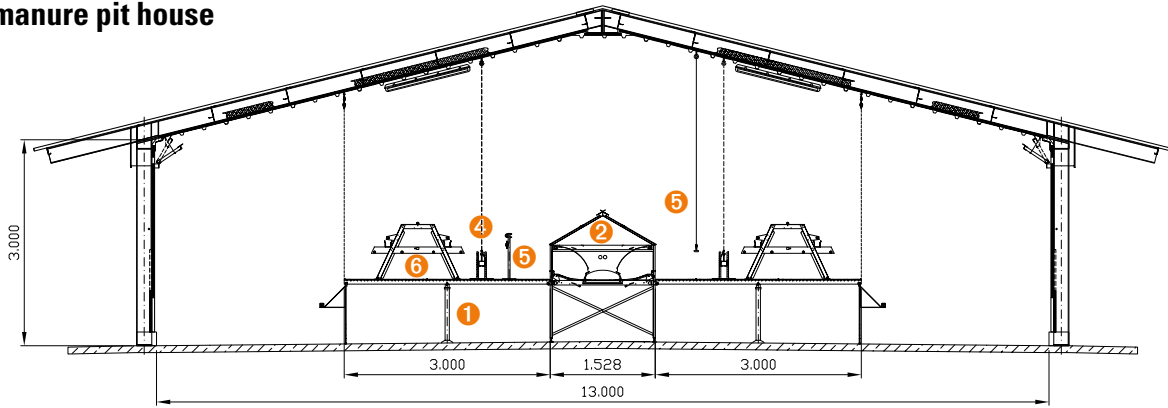
Manure belt beneath the supply zone in the one-tier NATURA-Nova



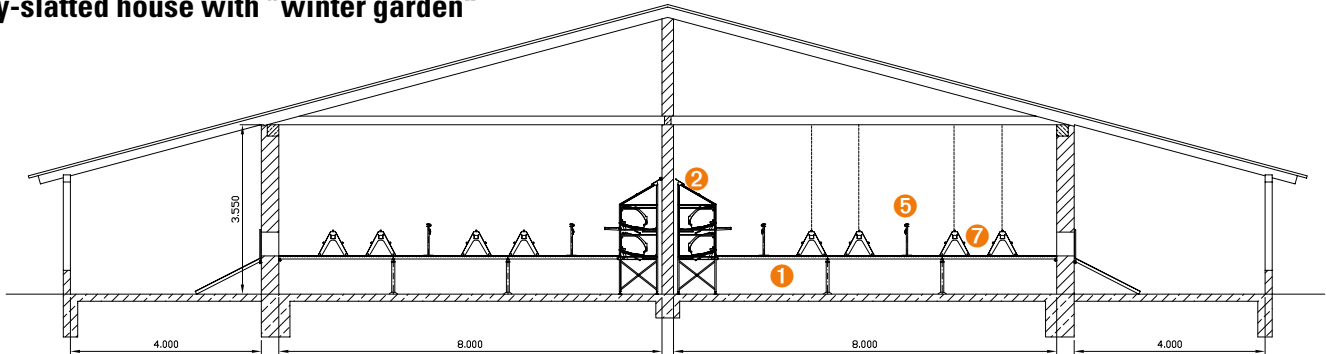
Integra plastic slats covering the manure pit

Examples of different house layouts

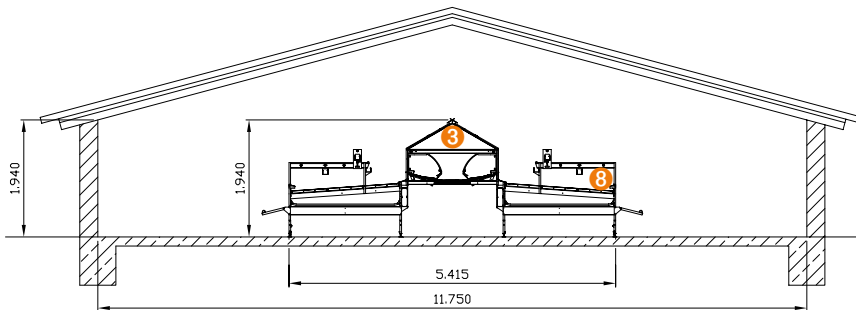
Classic manure pit house



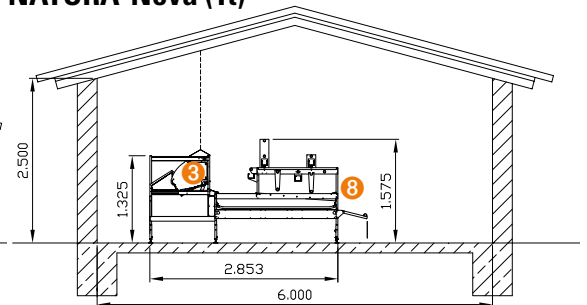
Fully-slatted house with "winter garden"



NATURA-Floor



NATURA-Nova (1t)



Key

- 1 Manure pit with plastic slats
- 2 Group laying nest Colony MB
- 3 Group laying nest Colony 2+
- 4 Trough with feed chain, standing or suspended
- 5 Nipple drinkers, standing and/or suspended
- 6 A-frame 5800 with feed and/or water supply and up to 6 perches
- 7 A-frame 3000 hoistable with feed supply and 3 perches
- 8 Manure belt level with feed and water supply



Big Dutchman.

Germany:
Big Dutchman International GmbH
 Postfach 1163 · 49360 Vechta
 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

Brasil: Big Dutchman (Brasil) Ltda.
 Tel. +55 54 2101 5900 · bigdutchmanbrasil@bigdutchman.com.br
 www.bigdutchman.com.br

Russia: 000 "Big Dutchman"
 Tel. +7 495 2295 171 · ikotov@bigdutchman.ru · www.bigdutchman.ru

Asia and Pacific region: BD Agriculture (Malaysia) Sdn. Bhd.
 Tel. +60 3 3361 5555 · bdasia@bigdutchman.com · www.bigdutchman.com

China: Big Dutchman (Tianjin) Livestock Equipment Co., Ltd.
 Tel. +86 10 6476 1888 · bdcnsales@bigdutchman.com
 www.bigdutchman.cn

