



# Big Dutchman®



## UNIVENT

Manure belt battery for layers

# UNIVENT – manure belt battery for safe and efficient egg production

The UNIVENT layer cage system from Big Dutchman meets our customers' highest requirements regarding animal health, laying performance and environmental factors in the most ideal way.

This technically proven system is characterised by a long service life, high functional reliability and outstanding conditions for humans and birds.

## Important advantages of this cage at a glance

GALFAN®-coating of all wire parts (cage fronts, bottom wires and lateral partitions) = **3 to 4 times better protection against corrosion in contrast to galvanized wire**

entire cage front is a sliding grate which opens easily = moving birds in and out becomes simple and more humane

flat-shaped egg protector rail encourages egg-laying at the trough = short roll-away distances, hardly any cracked eggs and hens are prevented from eating eggs

deep feed trough with inner rim = minimum feed losses

trough-shaped manure belt = manure cannot drop into the installation, very clean transport during manure removal

drinking nipple with V-channel = each hen can easily reach two nipples

air duct for fresh air supply to the birds and for the production of dry manure = significantly reduced ammonia emissions

bottom wires are placed on tension wires = high flexibility of the bottom wire and, therefore, very high egg quality



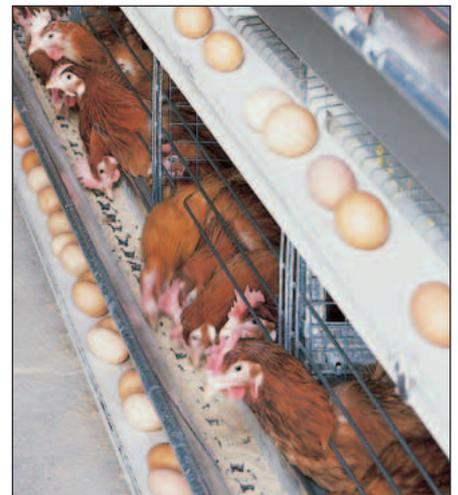
## Feed supply – uniform and reliable with the CHAMPION feed chain



Cascade feed column prevents feed bridging

The Big Dutchman chain feeder is the most reliable and cost-effective feeding system in the world. It transports the feed to the birds smoothly and without separation. The CHAMPION feed chain is moved by one drive per feed circuit.

- => high operation efficiency
- => no additional transfer components
- => low maintenance requirements
- => narrow feed column without legs saves space and permits easy cleaning
- => completely galvanized feed column = long service life



The chain safely conveys the feed to the birds

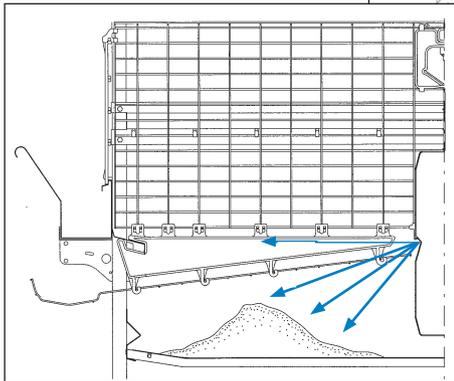
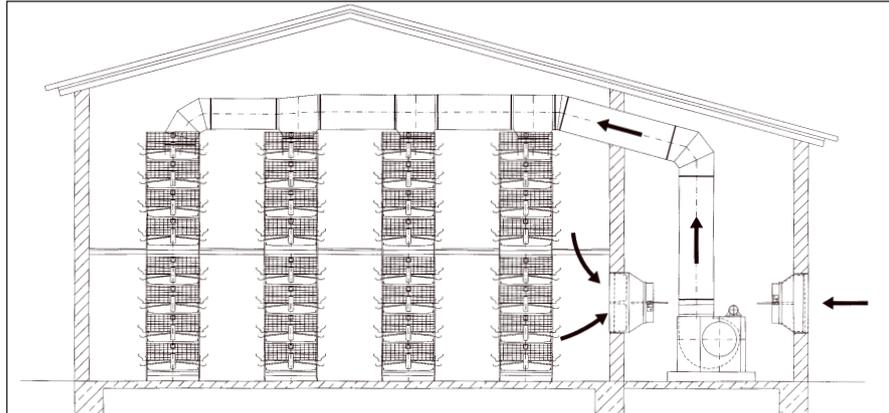
# Fresh air and manure drying – always matching birds numbers

The UNIVENT ventilated manure belt battery significantly reduces the ammonia level in the house compared to wet manure installations:  
 => UNIVENT is environment-friendly;  
 => birds are supplied with fresh air directly and uniformly.

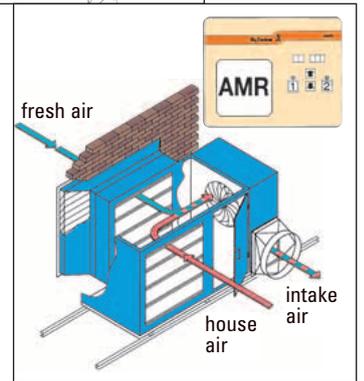
In colder climates, incoming air is pre-heated using an air mixer or heat exchanger:  
 => birds benefit from an optimum house environment;  
 => ideal conditions for high laying performance for each season of the year.

The air duct dries the manure quickly and effectively:  
 => dry matter content of up to 60 %;  
 => low energy costs;  
 => no fly problems.

Before fresh air enters the house, it can be pre-heated in the air mixer. It is then channelled through air ducts and guided over the manure and into the bird area through strategically positioned air holes.



When manure belt ventilation is the subject, the question of correct air rates and energy costs always arises. We usually recommend operating at an air rate of approx. 0.7 m<sup>3</sup>/h per bird. Energy consumption will be only 2.0 kWh/bird per year. It is essential to maintain a high stocking density in the house, to install a high level of building insulation and an optimum house ventilation system to achieve high rates of manure drying.



# Belt manure removal – simple, clean and efficient



Manure removal end set with manure chute

Polypropylene (PP) manure belts collect the manure under the cages. It can be stored and ventilated in place for an interim period of 7 days. Upon manure removal, it drops down on the cross belt from all tiers. From there, it can be transported either to a manure store or via another conveying belt directly onto a truck. By the way: The end set is galvanized to insure protection against corrosion. Manure belt scrapers efficiently clean the polypropylene belts on each tier. The optional manure chute at the end of the cage row, which has the shape of a plastic foil, ensures dust-free removal without spillage.  
 => dry manure is a crumbly substance with 5 times higher nutrient concentration than slurry;  
 => dry manure can be cost-effectively transported over long distances;  
 => the size of the storage room required is only one third compared to that of a slurry system, dry matter content of up to 80 % can be obtained.



Dry manure store

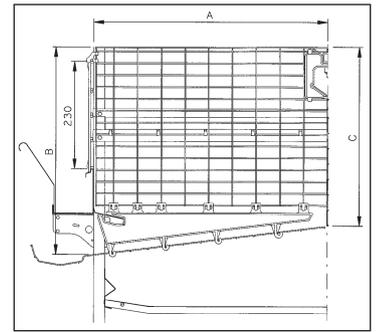


Manure is loaded directly on trucks

# Technical data and planning instructions

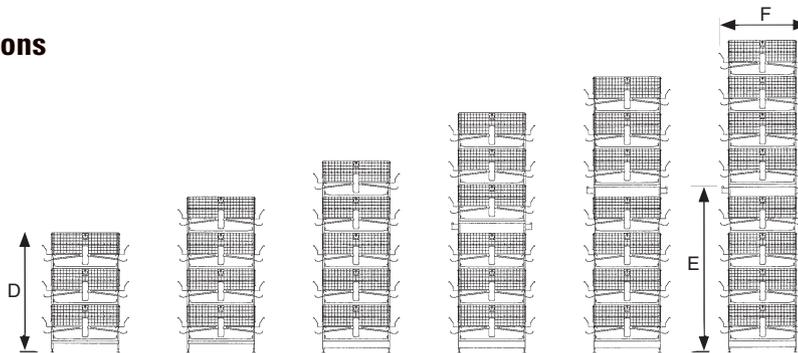
## 1. Cage dimensions

Type		UV 500	UV 500a	UV 500A	UV 550	UV 550a	UV 550A	UV 600
Cage depth (A)	mm	500	500	500	550	550	550	600
Cage width	mm	603	603	603	603	603	603	603
Height front (B)	mm	445	445	445	445	445	445	445
Height back (C)	mm	385	385	385	380	380	380	375
Height front door	mm	230	230	230	230	230	230	230
Cage surface	cm <sup>2</sup>	3015	3015	3015	3316	3316	3316	3618
System width (F)	mm	1340	1340	1440	1440	1440	1540	1540

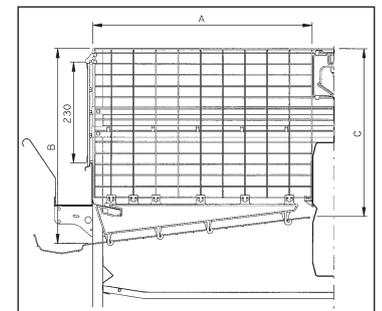


Cage cross section: UV 500, 550, 600 without air duct

## 2. System dimensions



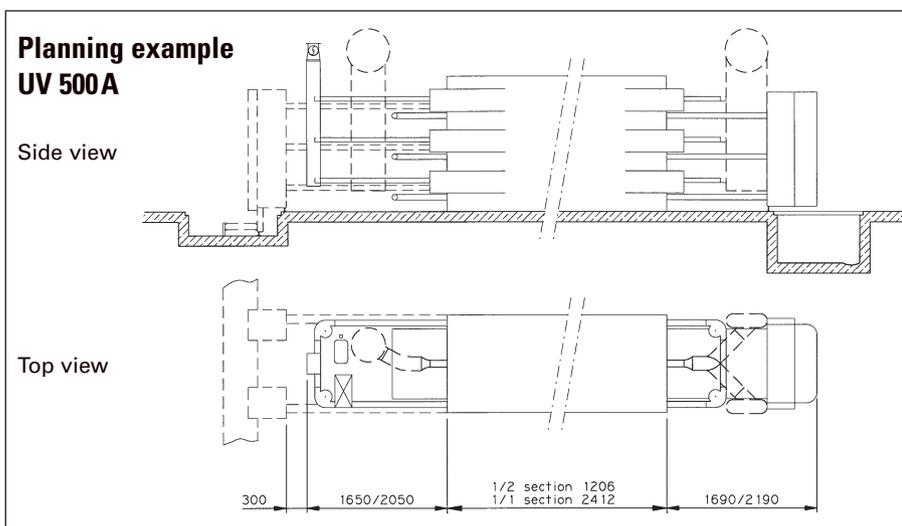
Number of tiers		3	4	5	6	7	8
Total height (D)	mm	1960	2550	3140	3930	4520	5110
Height catwalk (E)	mm				2010	2600	2600



Cage cross section: UV 500A, 550A with large air duct

## 3. Bottom wire

Mesh width	1 x 1.5"
Slope	7° = 12 %
Wire cross section	2.05 mm



## Our recommendations

Compatibility among the individual components of a laying unit including cages, house ventilation, egg collection and manure storage is essential to achieve optimal results. Allow our specialists to advise on application of Big Dutchman equipment and technology to successfully manage layer flocks.



# Big Dutchman

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