



Big Dutchman®



UniVent

Manure belt battery for laying hens

UniVent – the cage system for safe and efficient egg production

The UniVent layer cage system from Big Dutchman meets our customers' highest requirements regarding bird health, laying

performance and environmental factors in the most ideal way. This technically proven system is characterised by a long service

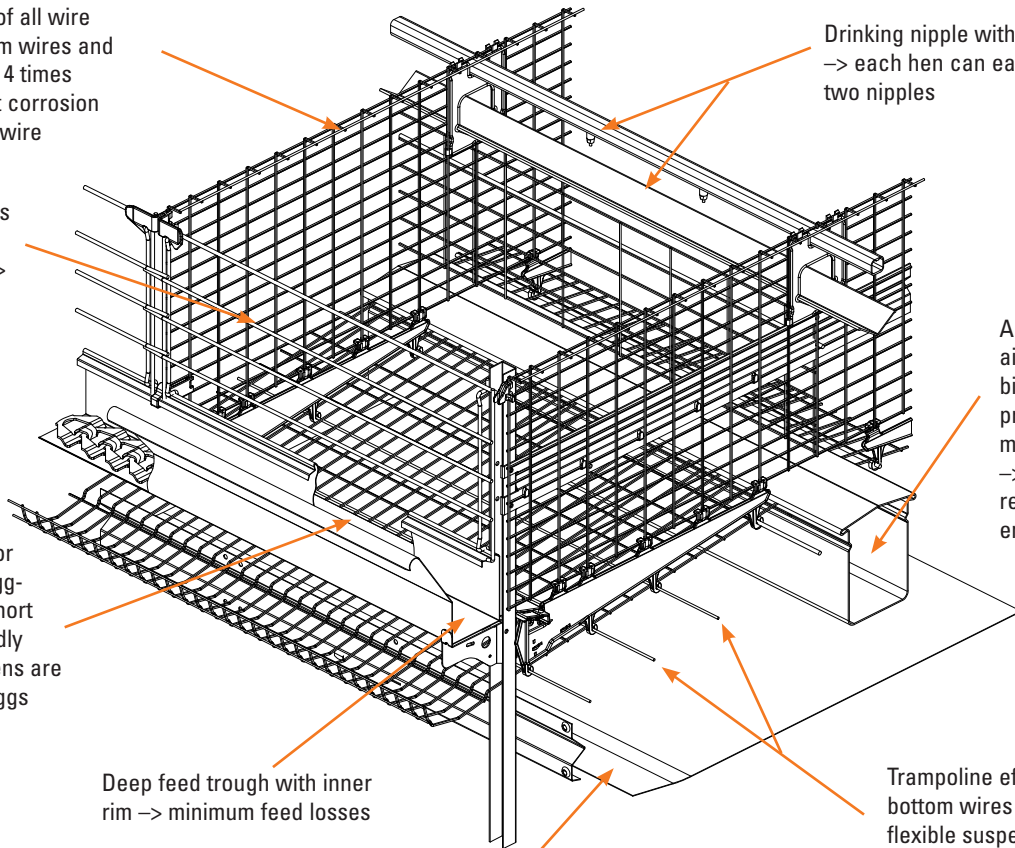
life, high functional reliability and outstanding conditions for humans and birds.

Important advantages of this cage at a glance

Zinc-aluminium coating of all wire parts (cage fronts, bottom wires and lateral partitions) → 3 to 4 times better protection against corrosion compared to galvanized wire

Entire cage front consists of sliding grids that can be opened completely → moving birds in and out becomes simple

Flat-shaped egg protector as footrail encourages egg-laying at the trough → short rolling-off distances, hardly any cracked eggs and hens are prevented from eating eggs



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 (optional) → significantly reduced ammonia emissions

Trampoline effect of the bottom wires due to the flexible suspension → very high egg quality

Deep feed trough with inner rim → minimum feed losses

Trough-shaped manure belt → manure cannot drop into the system, very clean transport during manure removal



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
- galvanized feed column takes up only minimal amounts of space and is easy to clean



The chain safely conveys the feed to the birds

Fresh air and manure drying – always matching bird numbers

The UniVent ventilated manure belt battery significantly reduces the ammonia level in the house compared to wet manure systems:

- > UniVent is environment-friendly;
- > birds are supplied with fresh air directly and uniformly.

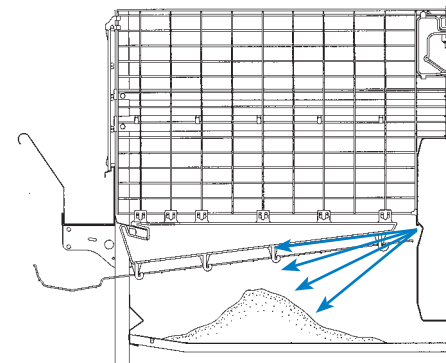
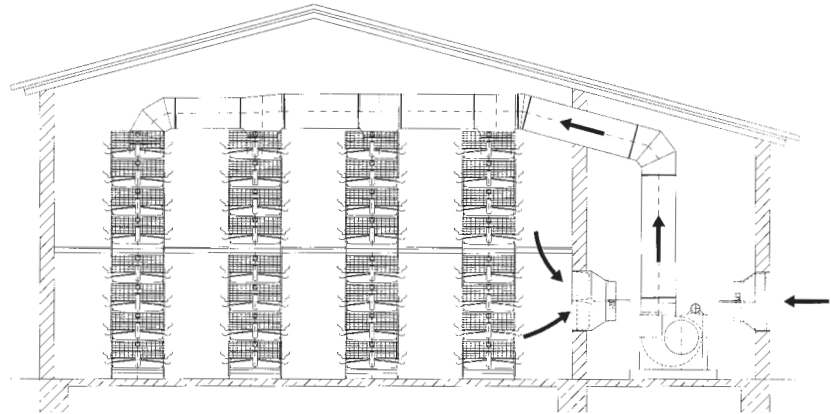
In colder climates, incoming air is pre-heated using an air mixer or heat exchanger:

- > birds benefit from an optimum house climate;
- > ideal conditions for high laying performance every season of the year.

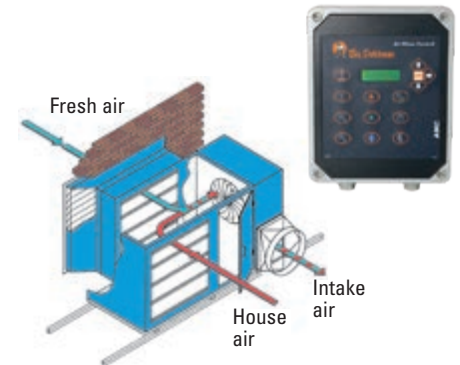
The air duct (optional) dries the manure quickly and effectively:

- > 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. 0.5 m³/h per bird. Energy consumption will be only 1.8 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.



Manure removal with manure belts – 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 a period of four days. When manure removal starts, the manure drops down onto 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. The end set is galvanized to insure protection against corrosion. Manure belt scrapers efficiently clean the belts on each tier. The manure chute at the end of the cage row ensures dust-free removal without spillage.

- > dry manure is a crumbly substance with a nutrient concentration that is five times higher than that of 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 contents of up to 80 % can be obtained.



Dry manure store

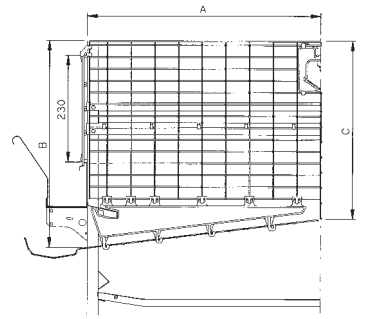


Manure is loaded directly on trucks

Technical data and planning instructions

1. Cage dimensions

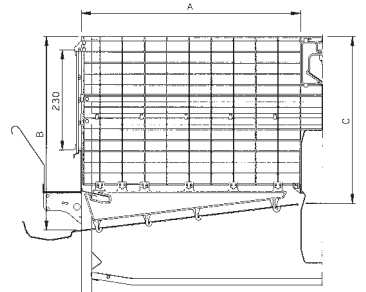
Type		UV 550 UV 550a	UV 550A	UV 600 UV 600a	UV 600A	UV 600-plus UV 600a-plus	UV 788 UV 788a
Cage depth (A)	mm	550	550	600	600	600	788
Cage width	mm	603	603	603	603	603	743
Height front (B)	mm	445	445	445	445	496	540
Height back (C)	mm	380	380	375	375	421	442
Height front grid	mm	230	230	230	230	283	292
Cage surface	cm ²	3316	3316	3618	3618	3618	5855
System width (F)	mm	1440	1540	1540	1640	1540	1916



Cage cross section: UV 550, 600, 600-plus, 788 without air duct

2. System dimensions

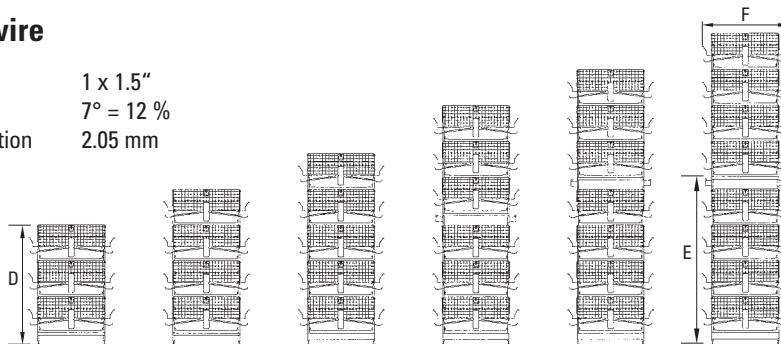
Number of tiers			3	4	5	6	7	8
Total height (D)	UV 550/600	mm	1960	2550	3140	3930	4520	5110
	UV 600-plus	mm	2110	2750	3390	4230	4870	5510
	UV 788	mm	2240	2910	3580	4450	5120	5790
Height catwalk (E)	UV 550/600	mm				2010	2600	2600
	UV 600-plus	mm				2160	2800	2800
	UV 788	mm				2250	2930	2930



Cage cross section: UV 550A, 600A with large air duct

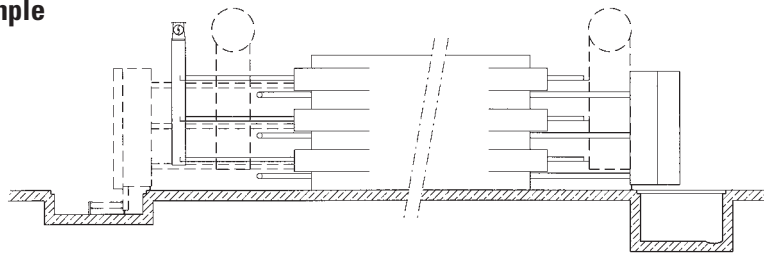
3. Bottom wire

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

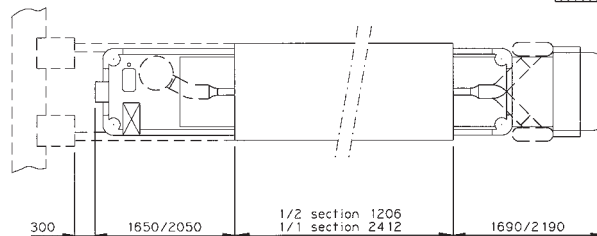


Planning example UV 600A

Side view



Top view



EggSaver

The EggSaver slows down the eggs when they roll from the cage onto the longitudinal egg belt. This is accomplished by means of a thin wire installed parallel to the egg belt. This wire is raised and lowered at certain intervals during the laying period, thus leading to a very good egg quality.



EggSaver in lowered position → the eggs are slowed down carefully



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