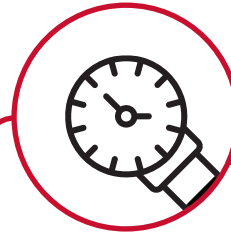


Nipple Drinker Guidelines



Installation Recommendations

- Nipple systems need to be pressurized with a header tank or pump system.
- Header tank pressure minimum 2 bar (30 psi).
- Pump supplier – 2.8 bar (40 psi) supplied to the control room. Pump systems will need an inline pressure reduction valve for constant pressure of 2 bar to the nipple system.
- Install nipples at a rate of 8 to 12 birds per nipple; see flow rate box.
- Birds should not have to travel more than 3 m (10 ft) to find water.
- Nipples should be placed at a maximum of 35 cm (14 in) centers.



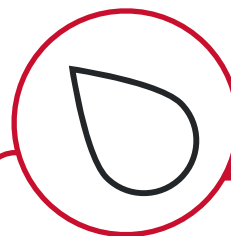
Water Pressure

- Follow the manufacturers recommendations to set and adjust pressure.
- Manage the system to prevent birds drinking from the drip trays. If water is present in drip trays the pressure is too high or the nipple may need to be replaced.
- Monitoring and testing flow rates is more accurate than a visual assessment to determine whether all nipples are operational.
- For sloped floors, install a slope regulator every 10 cm (4") of fall for even water flow down the length of the house.
- Higher water pressure does not mean higher consumption. Low water pressure can reduce consumption by as much as 20%.

Nipple Drinker Flow Rate

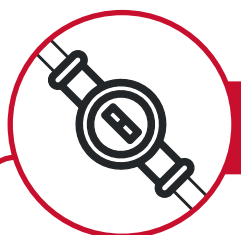
Age (days)	Flow Rate per Minute (ml)	
	Broilers	Breeders
0 to 7	20 to 30	30
8 to 14	30 to 40	40
15 to 21	40 to 50	50
22 to 28	50 to 60	55
29 to 35+	70 to 80	60

*These rates are only guidelines. Follow manufacturer's specific settings.



Flow Rate

- High flow nipple drinkers operate at 80 to 90 ml/min (2.7 to 3 fl. oz/min), provide a bead of water at the nipple, and have drip trays. Allow 10-12 birds per nipple on high flow rate systems (Broilers).
- Low flow rate nipple drinkers operate at 50-60 ml/min (1.7 to 2 fl. oz/min), typically do not have drip trays, and pressure is adjusted to meet the birds' requirements as they grow. Allow 8 to 10 birds per nipple on low flow systems (Breeders).



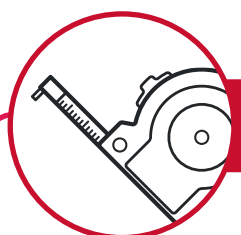
Water Consumption

- Daily water consumption (taken from meter readings before feeding) can give early warning of nutritional, disease or house temperature problems.
- Chickens normally drink 1.6 to 2.0 times their feed intake on a daily basis at 21°C (70°F).
- Water consumption more than 2.0 times the feed can occur in excessively high temperatures (above 30°C (86°F)).
- High consumption may also indicate errors in the feed formulation or leaking drinker systems.



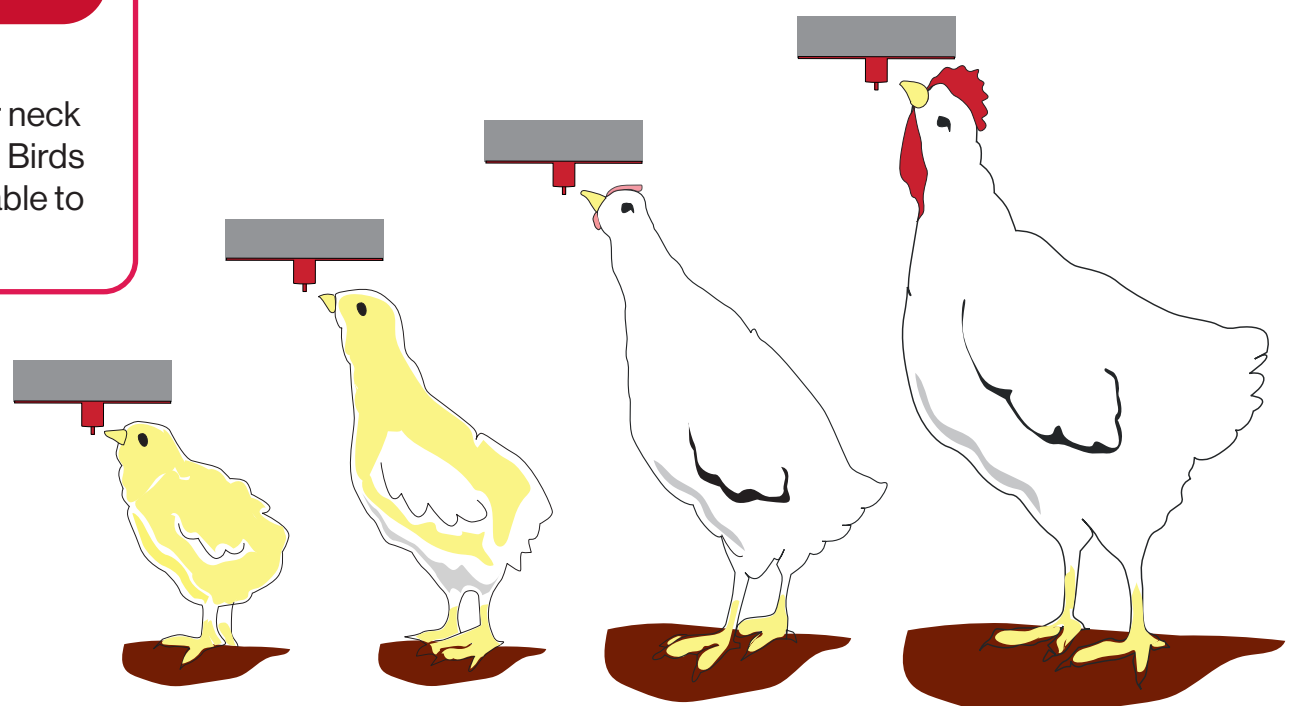
Water Quality

- Water should be clean, cool and free from pathogens.
- Calcium and magnesium salts (hardness) should be less than 200 and 125 ppm, respectively.
- Total dissolved solids should be less than 3000 ppm.
- Ideal pH range is 6.0 to 6.8.
- Chlorine levels of 3 to 5 ppm at the point of entry into the house and at least 2 ppm at the end of the drinker line.
- Water analysis, at 6 month intervals, is good practice.
- Ideal water temperature is between 10 to 14°C (50 to 57°F).
- Water temperature should never exceed 25°C (77°F). If this occurs the drinking system must be flushed at least 3 times per day.



Drinker Height

Adjust drinker height as the birds grow so they stretch their neck slightly and should never have to lower their heads to drink. Birds should never have to jump to reach water. They should be able to drink with their feet flat on the floor.



At placement, nipple pin should be at chick eye level.

At day 2 and beyond, adjust height so that the bird's head is at a 45 degree angle to the nipple.



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