

Why measure nipple drinker flow rate?

- To ensure that water supply will meet maximum demands for daily water intake.
- A *lower* than required water flow rate can cause dehydration, reduce feed intake, body-weight gain, and if left unchecked, livability.
- A *higher* than required water flow rate may increase spillage from drinkers causing poorer litter quality, and associated foot and leg health and environmental issues, and may result in reduced water intake as birds may not be able to activate the nipples correctly.



The procedure for measuring nipple drinker flow rate

Nipple drinker flow rates should be measured on a weekly basis. The first measurement should be taken before chick arrival, then once per week thereafter. However, it is good practice to monitor **water intake** daily; a sudden change in water intake can be one of the first indications that flow rates may be incorrect and should be measured.

Equipment

1. Measuring cylinder (with nipple activator if possible).
2. Timer or stopwatch with a second hand.
3. Recording sheet.
4. Pen or pencil.



The procedure for measuring nipple drinker flow rate

- Step 1** Walk to the nipple that is farthest away from the pressure regulator system; this will usually be at the opposite end of the drinker line from the pressure regulator.
- Step 2** Place the measuring cylinder under the nipple.
- Step 3** Start the timer or stopwatch and activate the nipple at the same time to allow water to flow freely into the measuring cylinder. (If a nipple activator is not available depress nipple using a finger).
- Step 4** When the timer / stopwatch reaches 30 seconds; deactivate the nipple to stop water flowing into the measuring cylinder.
- Step 5** Record the number of milliliters (ml) in the measuring cylinder. Multiply this figure by 2 to get flow rate through the nipple per minute.
- Step 6** Repeat steps 2 - 5 at 8 - 10 different locations down the nipple line to ensure the flow rates are consistent.



Interpreting results

It is important to remember that water flow rate through the nipple should be increased as the birds age to allow an adequate amount of water to be available throughout life.

Recommended flow rates through nipples

Bird age	Flow rate (ml/min)
0 - 7 days	20
7 - 21 days	60 - 70
>21 days	70 - 100

Remedial action if flow rates are not as recommended

Flow rate	Action required
Less than recommended	<p>Ensure water is turned on.</p> <p>Increase pressure at pressure regulator end of drinker line.</p> <p>Ensure there are no air locks or blockages in lines by depressing nipples to release air until water flows freely or by unscrewing water supply lines.</p> <p>Ensure drinker line is level.</p> <p>Check nipples are not clogged - clean with a recommended product or replace if necessary.</p> <p>Check rubber seals are in place and / or are working correctly. Replace seals if necessary.</p>
Higher than recommended	<p>Reduce pressure at pressure regulator end of drinker line.</p> <p>Ensure there are no air locks or blockages in lines by depressing nipples to release air until water flows freely or by unscrewing water supply lines. **</p> <p>Ensure drinker line is level.</p> <p>Check rubber seals are in place and / or are working correctly. Replace seals if necessary.</p> <p>Ensure purge button is not activated. This button will differ in position depending on the type of nipple system and pressure regulator in use.</p>

** An airlock or blockage may increase as well as decrease water pressure depending on where it occurs in the water line. A blockage towards the end of a line will increase pressure in the nipples prior to its position.