Nipple systems are the most common watering method in commercial poultry production worldwide.

Generally, there are two types of nipple drinkers:

High flow-rate nipples operate at 80-90 ml/min. To prevent litter becoming moist due to drip losses, high flow-rate nipples must be combined with a cup to catch excess water.

Low flow-rate nipples operate at a flow rate of 50-60 ml/min. They have lower drip losses and therefore generally do not need cups.
General
- Minimum requirements according to some national legislation and poultry production assurance schemes are one nipple per 15 birds
- Breeding companies recommend one nipple for 9 to 12 birds (depending on age, breed, housing system)
- Recommended distance between drinking lines is 3-4 m
- Usual distance between nipples of the same line is 25 cm
- Maximum length of a drinking line with water entering at one end is approximately 60 m
- Maximum length of a drinking line with water entering in the middle is around 120 m
- Height of the drinking line must be adjusted regularly according to the birds’ growth rate
- Water pressure must be set regularly to suit the birds’ consumption patterns

Water monitoring as a management tool
Water consumption has to be controlled daily. Recording of such data should be carried out automatically or manually. In the latter case, consumption data must be recorded at the same time each day. Any deviation from normal consumption needs to be investigated immediately. Water consumption will vary depending on environmental temperature, feed quality and health status of the birds.

Increased water consumption may indicate:
- Water leakage
- Heat stress
- Health challenges
- Feed-related issues

A drop in water consumption may indicate:
- Blocked pipes or blocked nipples
- Ill-tasting water additives
- Health challenges
- Feed-related issues
Monitoring water consumption is a must for good management!

Influences on water consumption in poultry:

- **Feed:** water ratio (kg:kg) should be between 1:1.6 and 1:2.0
- As the birds grow older, the demand for water will increase according to growth rate or production status. However, water-to-feed ratio should remain within this range.
- The water intake of males is greater than that of females.
- Water consumption depends on water temperature:
  - The ideal water temperature is 10-14 °C.
  - Water temperatures above 25 °C will lead to significant reductions in water consumption and should be avoided.
  - Low water temperatures reduces growth of micro-organisms in the water supply system.
- Where there are high ambient temperatures regular flushing of water lines with fresh water is strongly recommended!

Increased water intake can also be due to high mineral levels in the feed as well as excessive protein content. Protein not utilised for body growth needs to be metabolised and excreted. This energy-demanding process is associated with an increase in water consumption.

Water restriction, which does not fulfil the physiological demands of the birds - according to national legislation and management recommendations of breeding companies - is not considered to be an appropriate practice in poultry farming.
Planning mistakes in water systems
- Dead end pipes
- No means of flushing
- Difficult to access for cleaning and disinfection (layout and installation)
- Equipment not chemical-proof
- Use of the wrong drinker type
- Uneven floor/sloping houses
- Drinkers difficult to adjust
- Insufficient drinking space / too few nipples for flock size
- Drinker lines are too long

Mistakes in water management
- Wrong height of drinker lines
- Too high a water temperature
- Inadequate pressure in water line
- Water quality not monitored
- Water consumption not monitored
- Water restriction programmes (especially in hot weather)
- Presence of air locks in the water lines
- Water leaks

Key points
- Allow unrestricted access to good quality water at a temperature of, ideally, 10-14 °C
- Provide adequate drinker space respectively water nipples
- Monitor the water consumption and the feed-to-water ratio
- Make allowance for increased water intake at higher temperatures
- Regularly test water for temperature, microbial load and mineral content
- If necessary, implement quality-enhancing measures or use a different water source with better quality