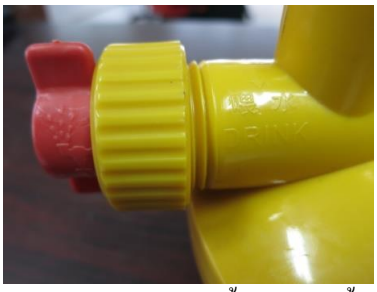
บริษัท อะกริบิซิเนส จำกัด
20/10 ม.10 หมู่ 10 ต.คลองข่อย ถ.กาญจนาภิเษก อ.ปากเกร็ด จ.นนทบุรี 11120
E-MAIL thaiagribusiness@gmail.com www.thaiagribusiness.name
โทร. (02) 1596242-3 (086) 3234448 โทรสาร (02) 1596244

การปรับ แรงดันน้ำ ระบบให้น้ำแบบนิปเปิล

วิธีการ หมุนปุ่มแดงล่างสุด ไปทางบวก + เพิ่มแรงดัน ไปทางลบ - ลดแรงดัน A



เปิดระบบ ปรับแรงดันน้ำ แรงดันน้ำสามารถปรับได้ ตามแรงดัน A

วิธีการ ปิดปุ่มแดงตามรูป ก็อกน้ำ มีสายน้ำ 1 เส้น ตามเข็มนาฬิกา ให้สุด

ไม่ปรับแรงดันน้ำ แรงดันน้ำจะเท่ากับแรงดันน้ำในท่อส่ง

วิธีการ ปิดปุ่มแดงตามรูป ตามรูป ก็อกน้ำ มีสายน้ำ 3 เส้น ทวนเข็มนาฬิกา ให้สุด

บ่ารับเขี่ยว

กริปล็อค ต้องอยู่ในแกน

การใส่อะไหล่ ชุดปรับแรงดัน-ไม่ปรับแรงดัน

AGRI BUSINESS

บริษัท อะกริบิซิเนส จำกัด

20/10 ม.10 หมู่ 10 ต.คลองข่อย ถ.กาญจนาภิเษก อ.ปากเกร็ด จ.นนทบุรี 11120

E-MAIL thaiagribusiness@gmail.com www.thaiagribusiness.name

โทร. (02) 1596242-3 (086) 3234448 โทรสาร (02) 1596244

การปรับแรงดันน้ำ

อายุ 1-2 สัปดาห์ ประมาณ 30-40 ซีซี ต่อ นาที เรคกลูเลเตอร์BHM ระดับน้ำ ประมาณ 5-10 ซ.ม
อายุ 3-4 สัปดาห์ ประมาณ 50-60 ซีซี ต่อนาที เรคกลูเลเตอร์ ฮัสเทค ระดับน้ำ ประมาณ 10-15 ซ.ม

อายุ 4 สัปดาห์ ขึ้นไป 70-80 ซีซี ต่อนาที เรคกลูเลเตอร์ BHM ระดับน้ำ 15-20 ซ.ม
อายุ 6 สัปดาห์ขึ้นไป 90 ซีซี ต่อนาที เรคกลูเลเตอร์ BHM ระดับน้ำ 20-30 + ซ.ม
ขึ้นกับ เพศ และ น.น ไก่เป้าหมาย
ตัวเลขข้างต้น เป็นนิปเปิล เอจีบี / เรคกลูเลเตอร์ BHM

นิปเปิลที่มี พินล่างขยับได้มากเป็นวงกว้าง เหมาะ กับการเลี้ยงลูกไก่เนื่องจากใช้แรงกดพินต่ำ
เรคกลูเลเตอร์/ นิปเปิล แต่ละยี่ห้อ จะให้แรงดันน้ำที่ไม่เท่ากัน แม้ว่าระดับน้ำจะเท่ากัน ต้อง เช็คโดย ใช้ แท่งไม้เล็ก แต่นิปเปิลด้านข้าง แล้วใช้ ไซลิงค์ วัดปริมาณน้ำที่ไหลออกมา 3 นาที่ แล้ว คูณด้วย 20 จะเท่ากับปริมาณน้ำ ต่อนาที เช่น วัดน้ำได้ 4 ซีซี ที่ 3 นาที เท่ากับ นิปเปิลจ่ายน้ำได้ 80 ซีซี ต่อนาที ความลาดเอียงของพื้นเล้าที่ 10 ซ.มจะมีผลต่อการให้น้ำของนิปเปิล

การปรับระดับท่อน้ำ เพื่อการกินน้ำที่สมบูรณ์
ความสูง ที่ไก่สามารถจิก นิปเปิลที่มุม 45 องศา

Broiler Management Procedures

GENERAL GUIDELINES

- The management stick is only a general guideline. Bird size, temperature and many other things can affect how you should manage line height and water pressure. Keep a record of what works best for you from year to year.

- Wet litter can be caused by either one or both of the following; nipples are hanging too low or too high (winch them up or down) or water pressure is too high (lower ball in standpipe). Use lower water pressure in winter.

PRE-CHICK SETUP

- Be sure water lines have been placed properly (2-3 FT [61-91 CM] from feed lines).
- Be sure nipple density is correct (see chart, brood area 30 maximum, grow-out area 15 maximum birds).
- Check filter cartridge and replace or backflush if needed.
- Provide at least 25 PSI (lbs / square inch) of pressure to a Val Watering System.
- If using low pressure regulator (VR202L) provide at least 3 PSI.
- Level water lines with house floor (to within 1/2" [1.3 CM]).
- Level shavings under water lines.
- Adjust regulator (ball height 2-4" [5-10CM]) (using management stick, 1" [2.5 CM] shown in clear sight tube).
- Adjust water line height to day one, from center of 1.05" diameter PVC pipe (using management stick).
- If you have a non-uniform flock, you must satisfy smaller birds.
- Trigger all nipples to make sure they are getting water.

CHICK PLACEMENT

- Place chicks under water lines, not under brooders.
- Make sure that the trigger pins are at eye level for your birds.
- Double check to make sure that water is present throughout system.
- After 48 hours, raise water lines so birds are drinking from the bottom of nipple pin.

Important! After second week, water pressure (ball height in standpipe) should be as high as possible without wetting litter to obtain maximum weights.

HOT CLIMATE MANAGEMENT

- Be sure to use 30" standpipes
- Start water pressure at 6-8" (15-20.3 CM).
- Water standpipe pressure should be raised by 6-8" (15-20.3 CM) every week until 28" (71 CM) is reached.
- If necessary, flush water lines periodically to keep water cooler (**if not using insulated pipe**).
- Insulate header kit (see page 22) [**use chiller**].

GROW OUT

- Adjust water line pressure and height according to management stick.
- Water pressure in standpipe should be kept as high as possible without wetting litter.
- Raise drinker height at least twice a week so birds drink from bottom of trigger pin.
- Always medicate or chlorinate during broiler house peak water demand.
- If chlorine, iodine or some other cleaning agent is not being used on a daily basis, the Val Watering System should be cleaned by running vinegar, chlorine or some other cleaning agent through a medicator during peak water demand every two weeks.

EMPTY HOUSE

- Drain water lines and regulators if there is any possibility of freezing.
- Clean standpipes with pipe brush, VB151 or VB151F.
- Flush the lines according to flushing instructions (on page 30) after every growout.
- **Remember to readjust your regulator to 2" (5 CM) of column to extend the life of the regulator diaphragm.**

Medicator

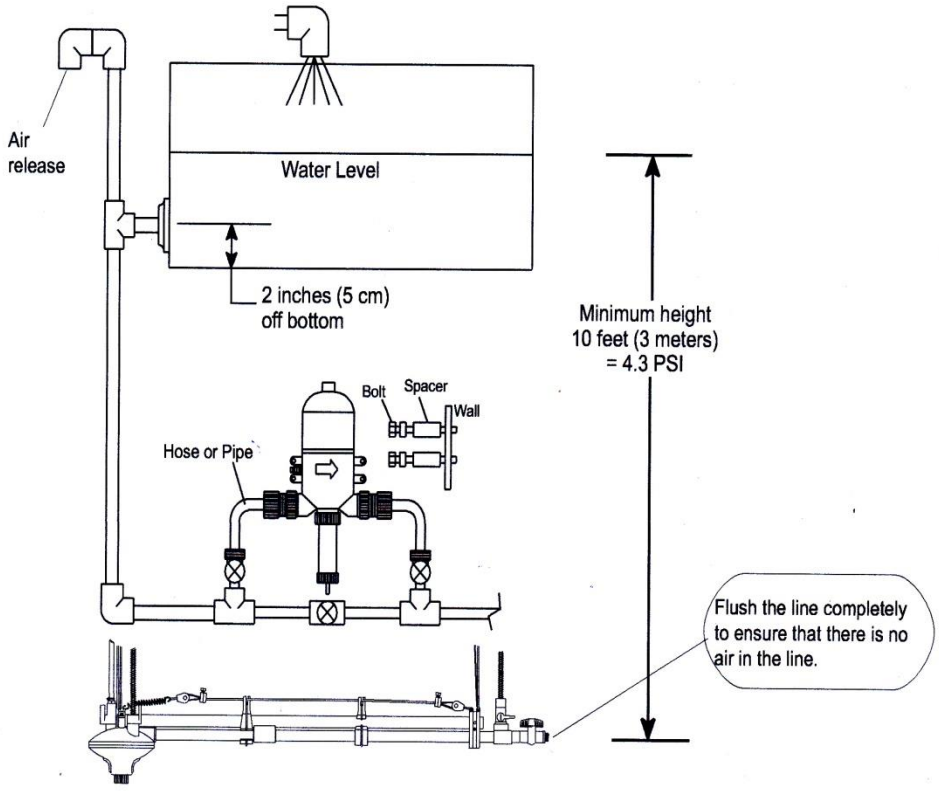
Tips

- Hard water will crystalize when coming into contact with chlorine and may cause excessive wear on mechanical parts.
- Always run clean water through your medicator after any use.

Please refer to your medicator manual for detailed instructions on maintenance, operation and troubleshooting.
See page 30 for medicating procedures.
See page 29 for line cleaning procedures.

Tank or Gravity Feed

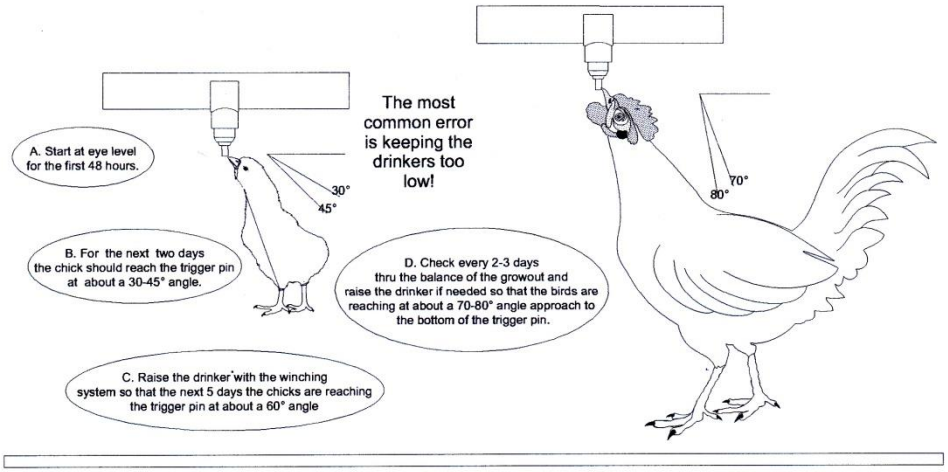
The minimum height requirement is from the water level in the tank down to the middle of the nipple line. **NOTE:** The water line must be full of water for the proper pressure to be created. Any air between the tank and the nipple line will decrease the effectiveness of the medicator.

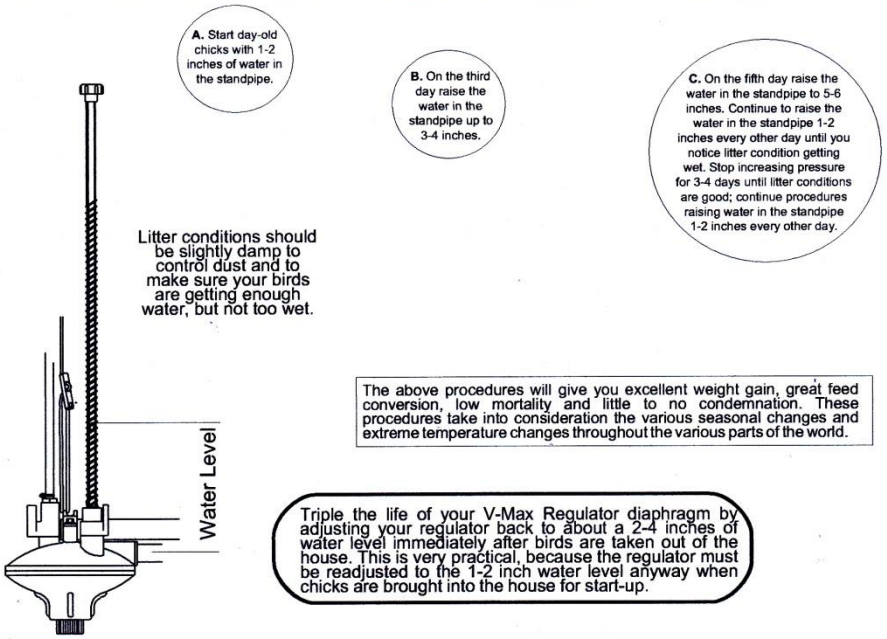


ระดับความสูง ถังผสมยา และแรงดันขั้นต่ำ 3-4 เมตร 4-5 PSI

Roaster Nipple and V-Max Regulator Management

The two most important procedures for the Roaster Nipple are ① height of drinker from the floor in relation to the bird and ② amount of pressure in the system (water height in the standpipe). Both of these procedures must change during the growout cycle. The following instructions detail the various changes of the cycle.



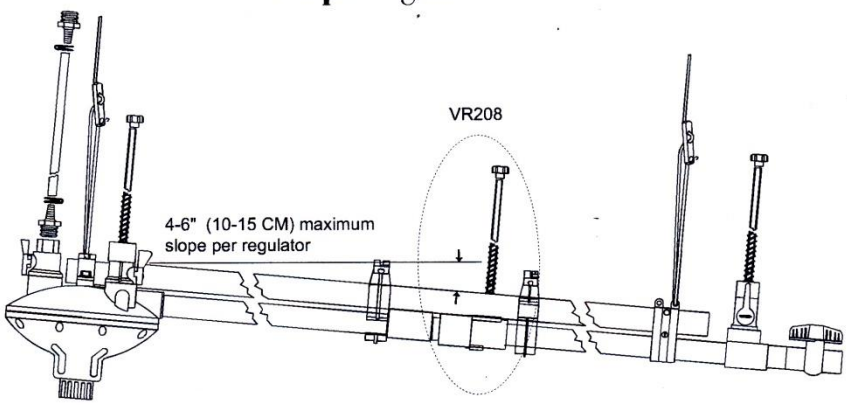


The above procedures will give you excellent weight gain, great feed conversion, low mortality and little to no condemnation. These procedures take into consideration the various seasonal changes and extreme temperature changes throughout the various parts of the world.

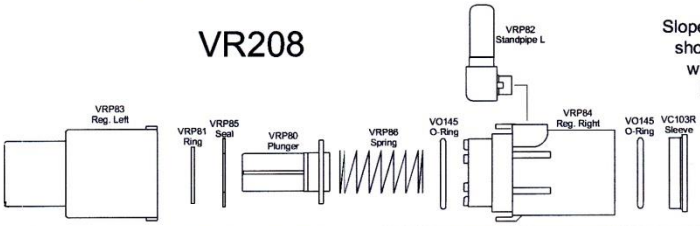
Triple the life of your V-Max Regulator diaphragm by adjusting your regulator back to about a 2-4 inches of water level immediately after birds are taken out of the house. This is very practical, because the regulator must be readjusted to the 1-2 inch water level anyway when chicks are brought into the house for start-up.

มุมการจิก นิปเปิล กับ ระยะการแขวน

Slope Regulators



VR208

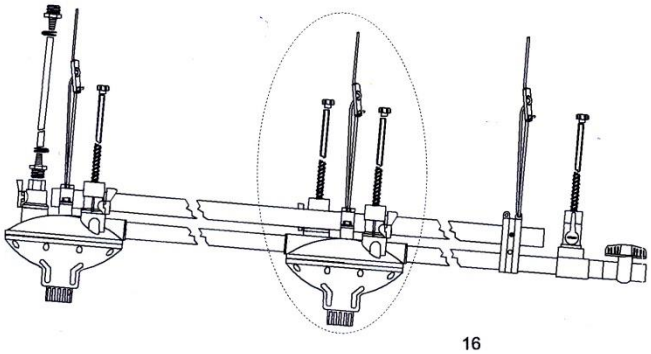


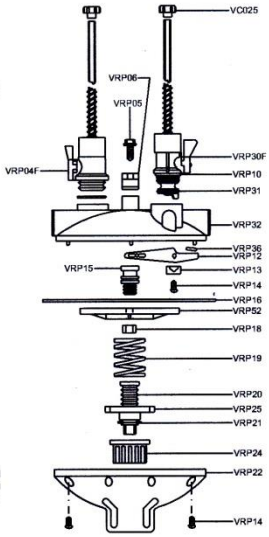
Slope regulators should be used when the column height at the end assembly is 6" (15 CM) or higher than the column height at the supply regulator (VR202).

Water must run downhill. The column height at the end assembly should be level or higher than the column height at the supply regulator (VR202).

No more than three VR204's should be installed in one line.

VR204





ระดับ ความลาดเอียง 5-10 ซ.ม ต่อ เรคกลูเลเตอร์

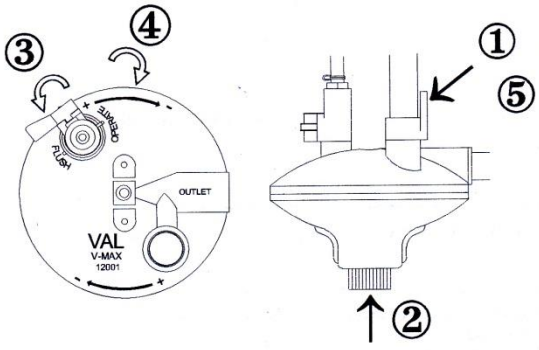
Vaccination Procedure

Medicate during peak water demand.

1. Withdraw chlorine 12 hours prior to vaccination or medication.
2. Neutralize with milk replacer for 3 hours prior to start of vaccination.
3. Raise water lines out of birds' reach for up to 3 hours in cool weather and as short as a half hour in hot weather.
4. At the end of the withdrawal time, mix the vaccination in the proportion indicated on the packaging (if it is powder, make sure it is completely dissolved). **NOTE:** Add food color dye to mixture if there is no color to the vaccine or see #6 for quantity of water in pipe to drain.
5. Put the medicator tube into the bucket and lower the water lines to the proper height.
6. Flush the lines until you see the color at the end of the line or flush 1/3 gallon (1.2 L) per 10 FT piece of pipe if there is no color. This will give the birds cooler water and ensure the maximum effectiveness of the medication.
7. When the vaccination bucket is empty, fill it with clean water to flush the medicator.
8. After the medicator is flushed, don't forget to bypass the medicator with the ballvalves.

Please keep my water clean and cool.

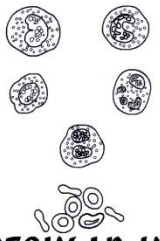
Flushing Procedure



If you have the Floor Flushing Kit (VF200) all you have to do is Twist-n-Flush at the regulator (follow #2 - 5).

1. If you are not using the VF200, hook hose to end assembly and open ballvalve and close standpipe shutoff valve.
2. Close shutoff valve on regulator standpipe and push up on adjustment knob while...
3. Simply twisting the intake from operate 180° to the flush position. **NOTE:** Make sure end assembly ballvalve is open before starting the flushing operations. Failing to open the ballvalve may cause damage to the regulator diaphragm.
4. To start the flushing, open the shutoff valve on the intake (VRP09).
5. When completed, close valve on intake (VRP09) and reverse procedure. Regulator is now ready for normal operations again. **NOTE:** When using the new Twist-N-Flush intake (VRP09) with the old existing regulators, simply twist the intake 90° to begin flushing.

Cleaning Water Lines



A regular cleaning program should be used to eliminate water line contaminants; including bacteria, sludge, drug residues and hard water deposits.

GENERAL CLEANING PROCEDURE:

1. Mix cleaning solution as indicated below.
2. Fill watering system with solution.
3. Allow solution to sit 1 to 3 hours.
4. Flush system with plain water using high pressure.
5. Check filters, valves and nipples for clogging from debris.
6. Adjust regulator pressure to normal operating pressure.

REGULAR MAINTENANCE

Watering system should be cleaned every four months (or every month in hot weather) during production with one of the following at a ratio of 1:128:

Administration	Vinegar for alkaline water	Citric Acid for alkaline water	Ammonia for acid base water
Proportioner	64 fl oz. white household vinegar + 64 fl oz. water = 1 gal. of stock	1 pack 205 gm citric acid + 128 fl oz. water = 1 gal. of stock	4 fl oz. clear household ammonia + 124 fl oz. water = 1 gal. of stock

BETWEEN FLOCKS

Watering system should be cleaned between flocks. A stronger cleaning solution can used, since no birds will be drinking the water. It is important to thoroughly flush the system with plain water to prevent storing high concentrations of cleaning solution in the watering system until the next flock is placed in the house.

Administration	ProClean	Vinegar for alkaline water	Citric Acid for alkaline water	Ammonia for acid base water
Proportioner	128 fl oz. ProClean = 1 gal. of stock	128 fl oz. white household vinegar = 1 gal. of stock	4 packs 205 gm citric acid + 128 fl oz. water = 1 gal. of stock	16 fl oz. clear household ammonia + 112 fl oz. water = 1 gal. of stock

CHLORINE

Chlorine is now considered to be the key salmonella fighter.

When using chlorine, the following dosages and application methods should be followed:

Administration	Chlorine
Proportioner	5 fl oz. bleach + 123 fl oz. water = 1 gallon of stock solution

This solution should run out in the poultry house through the medicator at 128 parts of water to 1 part of stock solution. The solution should be run during one of the last three days of the growout. This cleans the whole system including Val nipples drinkers and sterilizes the entire system for the new growout cycle.

Do not place chlorine agents in the system when the house is vacant. This places heavy residue in the pipes and nipple drinkers which can clog up various parts of the system.

Important Water Facts

Water Quality

Contaminant	Recommendation
TDS- Total Disolved Solids	< 3000 mg/liter
* Hardness (calcium and magnesium salts)	< 20 mg/liter
Salinity	< 1000 ppm
Nitrates (NO_3)	< 5 ppm
Nitrites (NO_2)	< 5 ppm
Total bacterial count	< 3000/ml
Total coliform count	< 300/ml
Total E. coli	0
pH	6-9
Iron	< .5 mg/liter

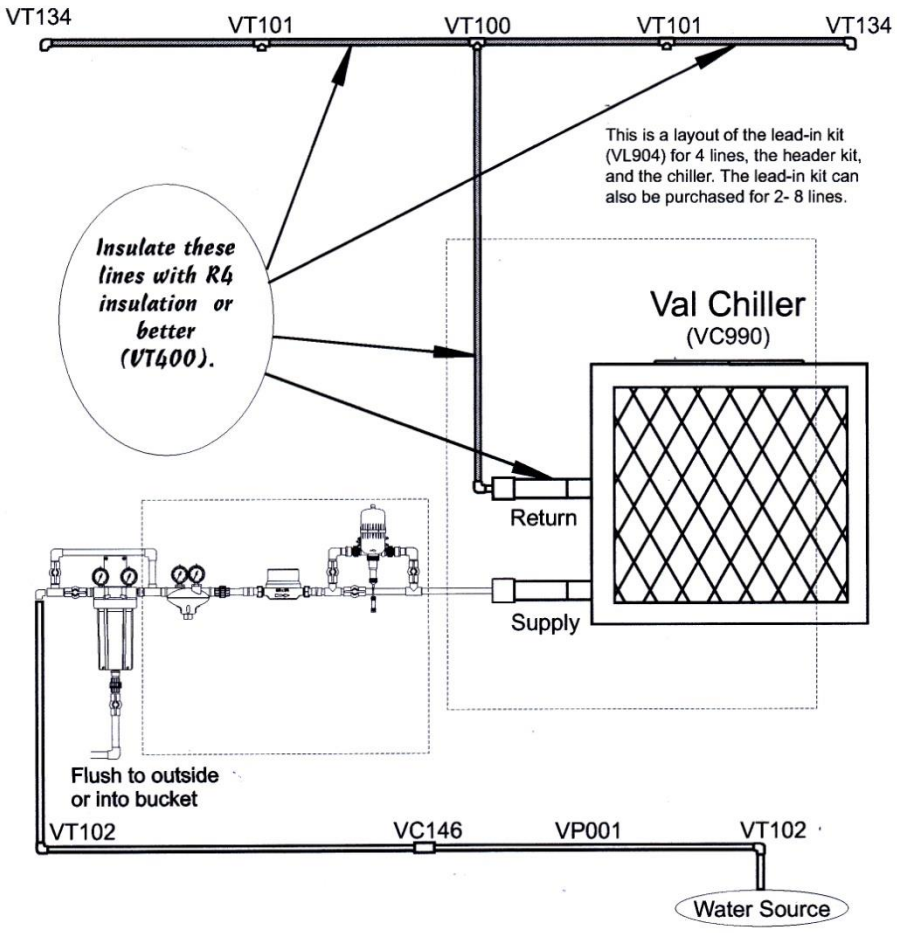
* Hard water produces deposits on nipples and water faucets and decreases their life and usefulness.

Water Temperature	Bird Reaction
50-60°F (10-15°C)	Comfortable drinking
> 86°F (30°C)	Reduction in drinking
> 111°F (44°C)	Refusal to drink

Water temperature is also an important factor in weight maintenance. Water lines outside the poultry house should be buried at least 2 FT (61 CM) underground. Water lines inside the house (especially when the lines run against an uninsulated roof) should be insulated R4 or better (VT400). Tanks should be painted white or silver and shaded from the sun when possible. If water is still not cool enough, the Val Chiller unit (VC990) is recommended. See page 22.

I can't drink hot water.

Chiller Unit Hookup



ลำดับการติดตั้งระบบจ่ายยา กรองน้ำ – ตัวปรับแรงดันน้ำ – มิเตอร์น้ำ- เครื่องผสมยา