Attachment J

COMMENTS ON PROPOSED FINAL FORM RULEMAKING

by the American Canine Association. Inc.

on proposed changes to Dog Law Enforcement by the

CANINE HEALTH BOARD *for the*
PENNSYLVANIA DEPARTMENT OF AGRICULTURE

7 Pa Code Chapters 28 and 28a

Regulation No. 2-170

IRRC Document Number: 2785

General Comments

There are several broad comments regarding the overall impact that the proposed regulations would have on dog breeding operations in Pennsylvania. Before analyzing the specific regulatory sections that the Department has proposed, the process of determining how to adequately address the issue of the inhumane treatment of dogs must start with an understanding of the problem.

For far too long, government has engaged in a "solution looking for a problem" public policy-making position. Emotionally charged issues are given an emotional response, and unintended negative consequences emerge. It appears that this is precisely the issue in this instance.

When the General Assembly enacted Act 119 of 2008 (Act 119), it did so in response to Governor Rendell's promise to "shut down puppy mills" in Pennsylvania. The Governor, alongside other animal rights activists, claimed that large breeding operations were detrimental to the health, safety and welfare of dogs and, as such, needed to be regulated into nonexistence. Using the moniker "puppy mills," they declared war on large breeders and successfully enacted sweeping changes to Pennsylvania's Dog Law.

Act 119 enacted severely restrictive requirements on Class C kennel operations, which were clearly targeted by the new law. Large breeding operations are now required to comply with a vast majority of new, extraordinary and costly mandates, and are subject to a myriad of additional requirements that are not imposed on other dog breeders. The American Canine Association (ACA) strongly believes that many of these requirements are invidiously discriminatory and violate both the Pennsylvania and United States Constitutions.

The proposed regulations that have now been promulgated are a continuation of the efforts of the Rendell administration to "strangle" large breeding operations. Before the enactment of Act 119, the Department of Agriculture submitted Regulation No. 2-152, which went well beyond the Department's authority and provided for unworkable, non science-based punitive restrictions.

So egregious were these regulations that they generated an unprecedented number of comments to the Independent Regulatory Review Commission (IRRC). Recognizing that it could not respond to all the valid concerns raised, the Department decided to pursue a legislative path to accomplish its goals. Unfortunately, it was successful.

Now, IRRC must consider Final Form Regulation No. 2-170, which represents the Department's further efforts to enact by regulation what it failed to achieve in the legislative process. These regulations contain much of the same deficiencies that caused the IRRC rejection in October of 2009 and are why the ACA again raises legitimate concerns with the Department's proposal.

The ACA believes that public policy issues should be addressed reasonably, rationally, and logically. There is no dispute that dogs should be treated humanely; indeed, all reputable breeders believe that the care and attention to their dogs is of the utmost importance. However, when cases of abuse arise, breeders who deeply care about their animals are unfairly targeted.

It is the Department's duty to enforce the Dog Law, and it appears that the current approach used by the Department is flawed. The result of this is Proposed Regulation No. 2-170, under which the Department seeks to further regulate dog kennels and to criminalize certain aspects of animal husbandry as well as implement punitive measures to ensure compliance.

While not expressly enumerated, there can be little doubt that these regulations are intended for one specific purpose: to put legitimate dog breeding operations out of business. In order to achieve this, the Department violated their statutory authority to impose restrictions not authorized by law, did not consider the financial impact to businesses as required by the Regulatory Review Act (1982, P.L. 633, No. 181), misreported actual engineering and annual operational costs, and failed to consider proper animal husbandry practices and veterinary science standards.

The ACA, alongside many other organizations, strongly urges IRRC to exercise its independent judgment based on the law and the requirements under the Regulatory Review Act to take appropriate action on the proposed regulations. In an effort to assist IRRC, the ACA would like to make the following specific comments regarding Regulation No. 2-170.

Specific Comments

The Final Form Regulations state: "When temperatures inside the kennel facility rise above 85 F, the kennel owner is given a four hour window (consistent with the Federal Animal Welfare Act regulations) in which to reduce humidity and/or temperature." The Department then added: "to achieve a heat index of 85 Heat Index" *(page 2 of 873).* The Federal Animal Welfare Act makes no reference to Heat Index.

So what is an 85 Heat Index? An 85 Heat Index is reached at 79.5 degrees Fahrenheit and 100% Relative Humidity *(Exhibit A).* Primary enclosures are washed down and sanitized throughout the day. 100% Relative Humidity will be measurable during this process. The Department only has the Authority under the Statute to require Commercial Kennels to mechanically manipulate the

air when temperatures are above 85 degrees Fahrenheit. The Department is now attempting to reach beyond its authority in requiring mechanical manipulation of the air for temperatures below 85 degrees Fahrenheit. The Department has exceeded its statutory authority with this regulation.

The Final Form Regulations go further and state "at no time may the heat index in the kennel facility exceed 90 Heat Index" *(page 2 of 873)*. A 90 Heat Index is reached at 80.1 degrees Fahrenheit and 100% Relative Humidity *(Exhibit A)*. Again, the Department only has the Authority under the Statute to require Commercial Kennels to mechanically manipulate the air when temperatures are above 85 degrees Fahrenheit. The Department is now attempting to reach beyond its authority in requiring mechanical manipulation of the air for temperatures below 85 degrees Fahrenheit. The Department has exceeded its statutory authority with this regulation.

Veterinary experts have stated that puppies are unable of sustaining enough body heat to sustain them until they are over two weeks of age. A puppy's normal body temperature is between 99.5 degrees Fahrenheit and 102.5 degrees Fahrenheit. If the puppies core body temperature goes below 95 degrees Fahrenheit, their digestive tracks shut down, followed by their kidney and liver *(Exhibit B)*. The mother dog licks the puppy after birth to remove amniotic fluids and then throughout each day to simulate urination and defecation.

The Department's requirements under these paragraphs fails to recognize that new born puppies cannot maintain their own body temperature until after 3 weeks of age. Supplemental radiant heat or infrared heat lamps are routinely utilized to create an average air temperature between 91 and 96 degrees F in the whelping pen area. This is done for the safety, health and well being of the young litter.

Under the Department's proposed rulemaking, providing this essential life support by would constitute a separate violation for each puppy and the mother of the litter.

Additionally, the regulations require that a primary enclosure with one pregnant female have 100 CFM of air stream flow at height of the dog. As the female whelps her first puppy, the air stream flow must increase to 200 CFM. It is common for large breed dogs, such as Mastiffs, to whelp 10 to 15 puppies in a litter. A primary enclosure with a Mother dog and 15 puppies will be required to have a measurable air stream flow of 1600 cubic feet per minute blowing directly on the dogs. It is common for the puppies to be wet from the mother's saliva. Veterinary experts agree that both the 90 Heat Index and 85 Heat Index requirements, coupled with the 100 CFM air stream flow per dog requirements, would cause an almost 100% death rate of newly born puppies due to hypothermia *(Exhibit B)*.

Estimated Cost to the Regulated Community

To verify the Department's reported findings we contracted the same HVAC Engineer used by the Department, Roger Lease at Paragon Engineering Services, Inc. located in York,

Pennsylvania *(page 12 of 873).* The cost of contracting Paragon Engineering Service to provide engineering drawings modifying an existing kennel building up to the proposed final form regulations was $2,360.00 *(Exhibits C and D).* The American Canine Association also contracted Gil Schonour, P.E., President of Progressive Engineering & Design, Inc. The cost of contracting Progressive Engineering & Design, Inc. to present engineering drawings modifying an existing kennel building up to the proposed final form regulations was $3,400.00 *(Exhibits E).* All commercial kennels will need to have this service provided. The Department omitted this expense for kennels in their final form financial reporting to IRRC. A clear violation of the law by the Department.

The Department's estimated costs for remodeling an existing kennel building to accomplish minimum standards reported to IRRC in the final form regulations is between $26,626 and $56,382 *(page 24 of 873).* However, the Department's own consultant engineer Rodger Lease at Paragon Engineering Service, Inc. provided us with a written estimate of $91,500 *(Exhibit E).* This estimate assumes that the kennel operator will be the contractor and have the expertise to sub-contract all electricians, plumbers, HVAC experts, acquire all permits, facilitate all inspections, oversee compliance of building codes, etc. If the kennel operator does not have this expertise, Paragon's affiliate, Morton Buildings, Inc., would handle all services for a total cost of $125,000 *(Exhibit F).* This is 200% to 300% higher than the Department reported to IRRC. Another clear violation of the law by the Department.

Rufus Brubaker Refrigeration, LLC located in Manheim, Pennsylvania has provided us with a written estimate of $103,552 with the understanding that the kennel operator is responsible a substantial amount of work prior to the company commencing work *(Exhibit G).* Both Paragon and Brubaker's engineering required the environmental system to work at 100% peak performance to obtain the Departments new minimum standards for the breeding facilities.

However, Progressive Engineering and Design, Inc. of Conshohocken, Pennsylvania felt that engineering a project based on the equipment performing at 100% capacity to reach minimum air quality standards of the Department was not sound advice. With minimum mandatory civil fines for a kennel having a total of 100 dogs ranging from $50,000 to $100,000 and up to 100 year in prison for each day that the Heat Index or 15 ppm ammonia limit is exceeded, Progressive Engineering and Design's engineers designed a more robust environmental control system and provided us with a written cost estimate of $510,372 *(Exhibit H).* This is nearly 10 to 20 times more expensive than the Department's reporting.

Again, the Department's reported cost estimates to IRRC for a typical kennel's installation of an environmental air quality control system and lighting was between $26,626 and $56,382 *(page 24 of 873).*. The Department grossly under reported the construction costs of their own consulting engineer. It is clear the Department's research and fact finding was flawed. The Department's reported figures are dramatically low and fail to show the true economic impact on the regulated community.

Section 28a.2. *Ventilation.*

For illustration purposes we are using a 1500 square foot kennel, with eight foot ceilings, housing 35 adult dogs and 65 puppies totally 100 dogs.

A minimum air flow rate of 100 cubic feet per minute (CFM) shall be required for each dog in the kennel *(page 12 of 873, sections (1) and (2)*, of which 30 CFM must be of fresh air *(page 13 of 873, section (4)*. This translates to a minimum for 15 complete air exchanges per hour. This was an increase from a minimum of 8 complete air changes per hour that the Department proposed to IRRC in September of 2009.

The Department's Final Form regulations require that all of the air stream flow over each animal's primary enclosure be filtered by an eight MERV or higher rated filter. One hundred dog times 100 CFM equals 10,000 CFM. The example kennel is 12,000 cubic feet. This translates to 100% of the animal breeding facility's air must filtered ever 72 seconds when temperatures are between 50 and 85 degrees Fahrenheit and, if the indoor temperature rises above 85 degrees Fahrenheit, 100% of the animal breeding facility's air must be filtered every 36 seconds.

The Department consulted Dr. Kenneth Kephart of Penn State University as an expert on animal breeding facilities. In fact, in the 873 document submitted by the Department, now also known as IRRC Document Number 2785, Dr. Kephart's name is found 108 times. In a letter dated August 17, 2010, Dr. Kephart states *(Exhibit I)* :

> *"If the air is re-circulated I do support of filtration (As noted in my comments from October 27, 2009) because re-circulation systems tend to increase airborne dust. However, I do not support the use of ventilation systems the re-circulate air. These systems were used about 20 years ago in the swine industry but were quickly abandoned because of an increased incidence in repertory illness."*

The American Canine Association fully concurs with Dr. Kephart's expert findings. We feel the Department's filter rates are excessive and unwarranted, unnecessarily adds to the redesign construction costs of the kennel, adds to the annual energy costs of the facility, and is detrimental to the dog's health and well being.

The Department stated maintenance cost for the replacement of two air filters every 90 days for the kennel would be $9 to $13 *(page 13 of 873)*. There are three problematic areas with the Department's cost figures. First, the eight MERV filters sited by the Department are only engineered to filter 1200 to 2000 cubic feet per minute *(page 13 of 873)*. The final form regulations require a minimum of 10,000 cubic feet to be filtered per minute. Second, the 90 day filter's life is based on residential HVAC usage (about 20 minutes per hour) rather than the kennel usage of 24 hours a day. Third, the 90 day filter's life is based on a residential home's environmental conditions, not a kennel housing 100 dogs with much higher animal hair, dander, dust, and other particulate matter from the dog's bedding materials.

The kennel engineered by Roger Lease at Paragon Engineering Services, Inc. utilizes 12 filters with a MERV rating between 8 to 11. Mr. Lease stated that these filter would need to be

replaced once a month. A total of 36 filters would need to be replaced every 90 days. The continuing pattern of the Department's research and fact finding procedures were flawed. The Department's reported figures are mathematically impossible and fail to show the true economic impact on the regulated community.

To prevent overspray The new regulation states "ventilation shall provide circulation at the height of the dog, meaning the ventilation system shall be designed and placed in such a manner that each dog is in the moving air stream provided by the ventilation." *(page 13 of 873, section 6),* This will require kennel operators to have the ability of manually adjusted ventilation levels for each primary enclosure.

Section 28a.2, sets forth a maximum ammonia level of 15 ppm. The ACA questions the development of this standard, and recommends that the Department provide some scientific justification for how it arrived at this figure. Does the Department have appropriate justification that dictates that ammonia levels of 16 ppm, 17 ppm, or even 24 ppm are directly threatening to a dog's health, safety or welfare? On what basis was this figure determined?
Dr. Kenneth Kephart's name is referenced 108 times in the Department's 873 page submission document to IRRC. The Department clearly implies Dr. Kephart's expertise and Penn State University was substantially responsible for the development of the minimum standards submitted by the Department for commercial breeding facilities. In fact, Dr. Kephart is opposed to the minimum standards submitted by the Department to IRRC *(Exhibit I)*.

The ACA believes that the regulation relating to carbon monoxide levels is a reasonable standard and recommends its adoption.

Section 28a.3. Lighting.

Indeed, the statute plainly says:

> Housing facilities for dogs must be lighted well enough to permit routine inspection and cleaning of the facility and observation of the dogs. Animal areas must be provided a regular diurnal lighting cycle of either natural or artificial light. Lighting must be uniformly diffused throughout housing facilities and provide sufficient illumination to aid in maintaining good housekeeping practices, adequate cleaning and observation of animals at any time and for the well-being of the animals. Primary enclosures must be placed so as to protect the dogs from excessive light. The appropriate lighting ranges shall be determined by the Canine Health Board. (Sec. 207 (h)(8), *emphasis added).*

Section 28a.3, requires that artificial, indoor, daytime lighting must provide full spectrum lighting between 40 to 60 foot candles at standing shoulder level of the dogs for daytime lighting *(page 24 of 873).* The ACA believes that such excessive amounts of light are not appropriate, considering that the average residential home's lighting is 12 to 20 foot candles. The average commercial facility's lighting is 15 to 25 foot candles.

Further, the ACA alleges that the Department's extreme lighting requirements are a direct violation of the Federal Animal Welfare Act, which expressly prohibits that dogs shall not have excess exposure to lighting. As a proponent of the humane treatment of dogs, the ACA believes that forcing dogs to endure the intensity of 40 to 60 foot candles of lighting is patently inhumane and runs contrary to the purpose of Act 119 and the federal statute.

The Department's estimated energy costs for a kennel to accomplish the minimum standards as set forth in the final form regulations is between $5,420 and $6,438 *(page 24 of 873).* The kennel will be required to have 100% of the air replaced every 4 minutes. Imagine your hours with all of the doors and windows open and with fans in the windows. It is a cold winter night and the Department is saying your heating bill will be about $500 for the month. If the Department is going to pay for any costs above $500 each month, maybe the breeders might not be so upset. But I think that would quickly bankrupt the Department. Rufus Brubaker Refrigeration, LLC has provided us with a written estimate of $53,600.00 *(Exhibit J).*

Progressive Engineering and Design, Inc. kennel design utilizes state of art energy recovery equipment and techniques dramatically reducing energy costs and has provided us with a written estimate of $21,000 annually *(Exhibit K).* Once again the Department's research and fact finding procedures were flawed. The whole intent of these regulations by the Department is to financially put breeders out-of-business economically.

Conclusion

As previously stated, the debate over the humane treatment of dogs in large kennel operations has been an emotionally driven, politically difficult course. The ACA, along with many other interested parties, has attempted to maintain civil discourse and science-based policy making as the foundation to the reforms that became necessary after a number of celebrated kennel cases were highlighted.

However difficult, state government agencies cannot and should not be used by any organization or group(s) to legislate and/or regulate legitimate businesses out of existence. Many of the commercial kennels targeted by the proposed regulations have longstanding positive records with the United States Department of Agriculture. Furthermore, many kennels never had issues under Pennsylvania's Dog Law prior to the adoption of Act 119. Now, despite these reputable breeders following the law, they bear the burden of significant, additional rules.

Regulation 2-170 fails on its face to make meaningful legal arguments as to how it works in conjunction with Act 119; instead, it takes the restrictions enacted by the General Assembly and greatly expands and adds to them. Such action is not permitted by law and should be summarily rejected by IRRC. Agencies which cannot achieve policy objectives through the General Assembly should not then attempt to enact those failed objectives by regulation.

Regulation 2-170 also clearly ignores the requirement under the Regulatory Review Act, section 5(a)(10), which requires agencies to identify the financial, economic and social impact of the regulation on individuals, business and labor communities and other public and private

organizations. The reason for the Department's failure to adequately meet this standard is because of the extraordinary costs that it knows kennel operators will face in attempting to meet the unlawfully promulgated standards. Again, it appears that the goal is to drive commercial kennel operations out of business.

Finally, the Department fails to give appropriate attention to animal science. Regulations without context are arbitrary, and many of the provisions of Regulation 2-170 were created only after the scientific basis and facts were intentionally altered by the Department. In some instances, the requirements run afoul of modern veterinary standards.

For these reasons and more, the ACA strongly encourages IRRC to consider the forgoing in its review of the proposed regulation, giving particular attention to the standards that must be weighed under Section 5 of the Regulatory Review Act, and to reject Regulation No. 2-170 based on the arguments presented here.

Bob Yarnall, Jr.
President and CEO
American Canine Association, Inc.

EXHIBIT A

Kennel Requirements for Pennsylvania Commercial Kennels 2010

Ventilation:

Heat Index reference chart

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	118	110
40	80	81	83	85	88	91	94	97	101							
45	80	82	84	87	89	93	96	100								
50	81	83	85	88	91	95	99	103								
55	81	84	86	89	93	97	101									
60	82	84	88	91	95	100										
65	82	85	89	93	98	103										
70	83	86	90	95	100											
75	84	88	92	97												
80	84	89	94	100												
85	85	90	96	102												
90	86	91	98													
95	86	93	100													
100	87	95	103													

Likelihood of Heat Disorders with Prolonged Exposure or Streuous Activity

Caution | Extreme Caution | Danger | Extreme Danger

79.5 (F) x 100 % Relative Humidity = 85 (HI)

NOAA Nation Weather Service Heat Calculator - http://www.crh.noaa.gov/jkl/?n=heat_index_calculator

EXHIBIT B

Dr Thomas F. Stevenson
PO Box 1052
Honey Brook, PA
19520
610-273-3230

I have been asked to answer a series of questions concerning the new ventilation requirements being considered for final approval by the Pennsylvania Department of Agriculture. Following are my thoughts and concerns about these proposed regulations.

First, is there any research data concerning the average air quality of the commercial dog kennels in PA as measured by a parameter such as ppm of ammonia? Could I be directed to the data and the kennels they were collected from, that were used to obtain this average? Also, is there available a list of kennels which have been cited for having dogs which have become ill from poor air quality? I know Dr Danielle Ward is frequently in the kennels and should have access to any Orders of Veterinary Exams that she has ordered for dogs ill from poor air quality. This information would be very helpful to determine the seriousness of the problem in the PA commercial dog kennels. Obviously if no data exists, would it be possible to obtain the criterion that was used to draft these regulations? Maybe the air quality problems in the kennels are so bad that even these requirements won't address the situation and the potential problems that I see with these proposed regulations are far outweighed by the potential benefit to the welfare of the kennel dogs. Or maybe the air quality in PA commercial kennels is not a major source of illness and the regulations as proposed are unnecessary. Without the data how would we know?

I will now address the questions.

1. A canine mother will continually lick her puppies upon birth and during the first several days to stimulate them to urinate and defecate. Several veterinarians have advised us that puppies cannot generate enough body heat by themselves to survive for the first several days. Infra red heat lamps and heating pads are used to keep the young pups at an average of 94 degrees Fahrenheit. The Department of Agriculture's Final Form regulations make this husbandry practice illegal and require that the primary air flow be at 100 CFM. In your opinion, what affect would these minimum air flow requirement have on a new born puppy when the temperature is between 50 and 85 degrees Fahrenheit and wanders away from the mother in the primary enclosure?

Answer: In all honesty, not allowing the use of heat lamps or heating pads within the primary enclosure which may potentially raise the Heat Index above 90 is just wrong. We know that there are certain viral agents which a puppy can become exposed to either after birth or inutero that will not replicate and hence "infect" a puppy unless the puppy become hypothermic. Hypothermia is the critical physiologic parameter which must be met in order for viral replication to occur within the puppy's body. It is a well known physiologic fact that neonatal puppies are more like lizards from birth and up to 2-3 weeks of age, than dogs as far as body temperature regulation goes. A puppy assumes the temperature of the ambient temperature of the environment it is in. It has been a standard practice of neonatal management to have ambient temperatures between 85 - 90F or an additional heat source available for a puppy to utilize if it gets chilled. Hypothermia (rectal temperature of 78 - 95F) is common in sick puppies. At these physiologic temperatures depressed respiration, slowed heart rate, and gastrointestinal paralysis can occur. Add to that the amount of air flow moving through primary enclosures across a frequently moist puppy from the mother cleaning it, and it would appear possible that a hypothermic puppy would be the rule rather than the exception. It is an accepted statement among veterinarians that cold is likely the number one killer of puppies. However, I will stand corrected if there is data showing how these standards implemented in a canine commercial kennel have reduced the neonatal morbidity/mortality rate.

2. Many large breed canines whelp 10 to 15 pups in a litter. The Department of Agriculture's Final Form regulations require that the primary air flow be at 100 CFM before she whelps and to increase proportionally by 100 CFM as each puppy is born. The primary enclosure's air flow stream would increase from 100 CFM to 1,500 CFM when temperatures are between 50 and 85 degrees Fahrenheit and to 3,000 CFM if the indoor temperature rises above 85 degrees Fahrenheit. In your opinion, what affect would these minimum air flow requirement have on all of the new born puppies in animal breeding facilities?

Answer: Again this just seems like a recipe for a disaster. It should be apparent to anyone that the birthing process requires the loss of a lot of fluid. When a puppy is born it is wet and then the mother "dries" it off with a wet tongue. Then the next puppy is born. It likely gets the previous puppy wet again and both are "dried off" with the mother's wet tongue. Depending on the size of the litter this process could be repeated 12 -15 times over a 12 -18 hour period of time. Newborn puppies cannot control their thermogenesis mechanisms such as shivering, and their vasoconstrictive abilities, which are needed to prevent heat loss. We all know what it is to sweat and then have a breeze blow over us. What does that do? It cools us down. It does the same thing to a neonatal puppy which until around day 6 cannot shiver in an attempt to warm itself. Until the puppy's thermogenesis abilities develop, the only way a puppy can keep itself warm is staying near its mother and litter mates. The puppy's ambient temperature needs to be between 85 - 90F with minimal airflow through the primary enclosure. It would appear to me that these required airflow rates would greatly jeopardize the welfare of the puppies. However, I will stand corrected if there

is data showing how these standards implemented in a canine commercial kennel have reduced the neonatal morbidity/mortality rate.

3. Kennels use a veterinarian approved mixture of water and disinfectant pressurized wash down systems to clean primary enclosures. Multiple cleaning of primary enclosures is preformed daily. The Department of Agriculture's Final Form regulations require that "at no time" shall the Heat Index be above 90. A 90 Heat Index is reached when the temperature is 80.8 degrees Fahrenheit and the relative humidity equals 100%. During the cleaning process and especially on rainy days coupled with the high level of air exchanges, the relative humidity will be at 100% at multiple times during a 24-hour cycle. The Department stated in their Final Form regulations that the animal's life is in imminent danger if the Heat Index is above 90. The Department will be installing air quality monitoring devices that store a minimum six months of continuous air sampling data. Data will then be downloaded from the monitoring device to determine if the animal breeding facility had at any time been in violation of the Department's new Final Form regulations. In your option, is an animal's health adversely affected when exposed to any Heat Index rating above 90?

   Answer: So yesterday (8/16/10) in southeast Pennsylvania, when it was 89F and raining, all dogs outside were in imminent danger? Imminent danger of what? Getting wet? As long as dogs can breath and have access to water and are not out in the direct sunlight, they can tolerate rather warm temperatures for a period of time. Neonates and puppies are actually more susceptible to hypothermia than to hyperthermia. I am unaware of any commercially licensed kennels in PA which have had a heat stroke epidemic in a kennel with a Heat Index of 90. However, I will stand corrected if there is data showing how this standard implemented in a canine commercial kennel has reduced the incidence of heat stroke in a kennel with a Heat Index of 90. (This is assuming the "imminent danger" is heat stroke. I am not sure what else could be implied by that wordsmithing).

4. The Department of Agriculture's Final Form regulations require that if the indoor temperature of the animal breeding facility rises above 85 degrees Fahrenheit, the facility must lower the facility to 85 Heat Index or lower. As stated earlier, during cleaning and on rainy days the Heat Index is reached when the temperature is 79.5 degrees Fahrenheit and the relative humidity equals 100%. In your option, should animal breeding facilities be required to have this additional 85 Heat Index regulation?

   Answer: See above. I am unaware of any commercially licensed kennels in PA which have had an epidemic of heat stroke in a kennel with a Heat Index of 85. However, I will stand corrected if there is data showing how this standard implemented in a canine commercial kennel has reduced the incidence of heat stroke

in a kennel with a Heat Index of 85. (This is assuming the "imminent danger" is heat stroke. I am not sure what else could be implied by that wordsmithing).

In summary. It would be agreed to by all concerned that our first interest is the well being of the dogs. The point of the proposed regulations needs to be "what is best for the dogs." In my opinion it is difficult for me to see how any of these proposals is going to improve the well being of the dogs. As stated above concerning the regulations concerning puppies, I am amazed that such recommendations are even being considered since they seem to contradict all known neonatal management procedures. In my opinion, these proposed regulations are likely to lead to a higher morbidity and mortality rates due to the increased incidence of hypothermia and the cascade of problems that accompany that physiologic situation. As far as the Heat Index concerns it would appear to me that a theoretical problem or situation has been created and regulations than promulgated to solve a hypothetical situation. I will stand corrected if any evidence or data can be presented where these proposed regulations have been implemented in a canine commercial kennel and a measurable improvement in air quality, and puppy and dog disease incidence has occurred. If that is available and able to be validated I would be for the passing of these regulations since than it would be proven to be beneficial to the dogs. However, if this just an experiment, at the expense of PA kennel owners or worse yet, just a hoop to make them jump through I would be against the passing of them for that and the increased risk to to the puppies.

Since these regulations are from the PA Department of AG whose mission includes aiding those involved in agriculture to be profitable, and since breeding dogs in PA is still a legal enterprise, I do not see how passing these regulations is consistent with the Department of Agriculture's mission statement.

Sincerely Yours,

Dr Tom Stevenson

Invoice

Rep	Date	Invoice #
RCL	8/16/2010	5779

Paragon Engineering Services, Inc.
2201 S. Queen Street
York, PA 17402

EXHIBIT C

Bill To
Booths Pet Supply 1362 Naamans Creek Rd Boothwyn, PA 19061
kreider@earthlink.net

Please review the address information. If any corrections are needed, please copy this invoice, make corrections, and send edited copy with your payment.

P.O. No.	Terms	Due Date	Project
Email	Net 30	9/15/2010	10-0677-001 - Kennel Ventilation System

Description	Est Amt	Prior %	Prior Amt	Curr %	Class	Amount
Mechanical Engineering Services - HVAC	2,000.00	100.00%	2,000.00	0.00%	York	0.00

Payments/Credits	$0.00
Total This Invoice	$2,000.00

Phone #	Fax #		
717.854.7374	717.854.5533	**Job Total Balance - Less Payments/Credits**	**$2,000.00**

Aug 06, 2010 - 4:59pm - rcl
P:\0600-0699\0677 - Booths Pet Supply\10-0677-001 - Kennel Ventilation System\Kennel Ventilation System\Constructs\Mechanical\10-067

GF-2 CU-3 CU-4	GAS FURNACE CONDENSER CONDENSER	58MCB-120---20 24ABA4-048 24ABA4-048	1500	1500	0.5	HIGH	3/4	4.0 4.0	45.5 45.5	34.6 34.6	87.0 71.0

READ AND SAVE THESE INSTRUCTIONS

HERRMIDIFIER

EXHIBIT C

DUAL-PNEUMATIC ATOMIZING SYSTEM

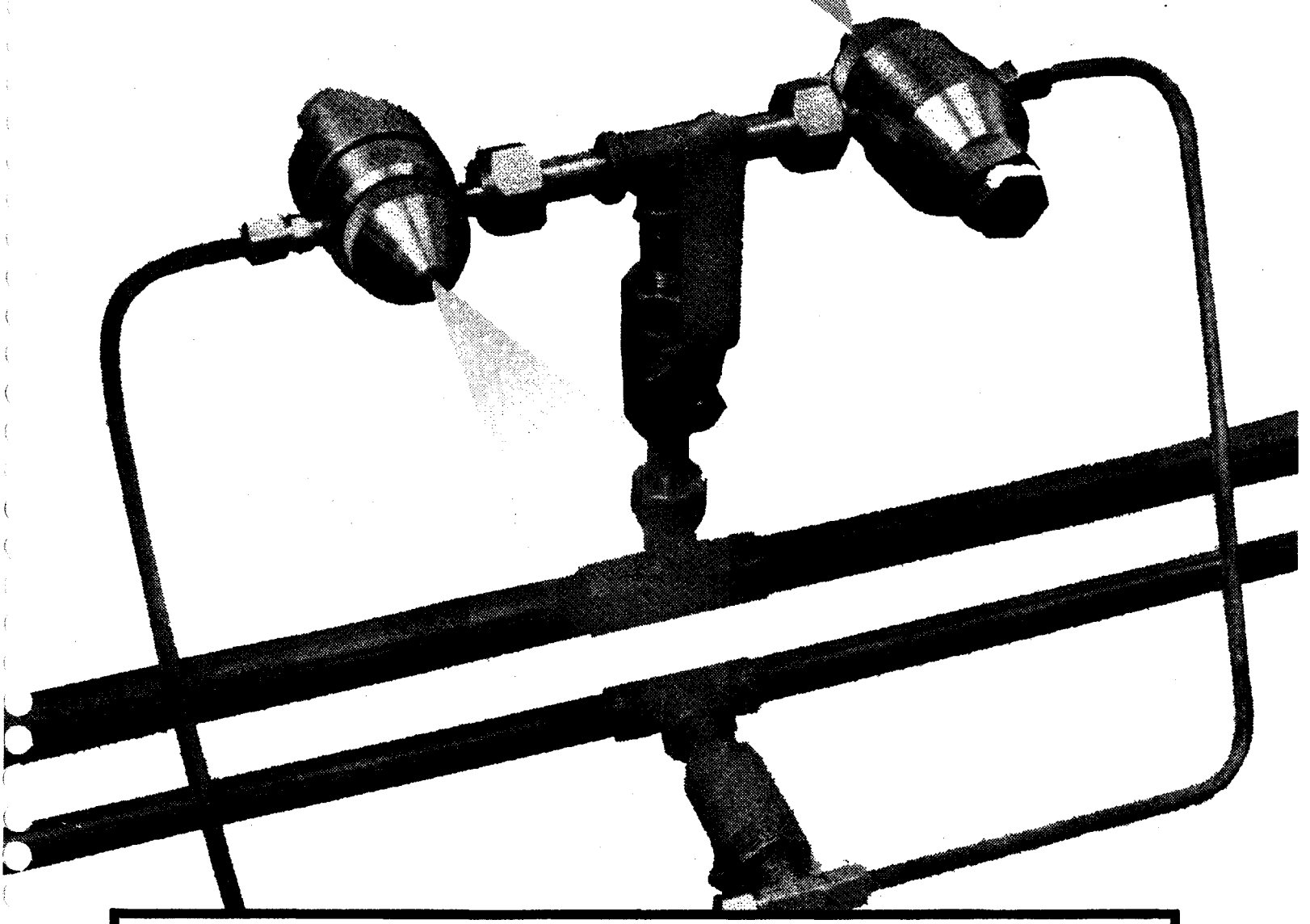

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EXHIBIT C

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IMPORTANT

It is of vital importance that the procedures outlined in this booklet be followed completely.

All foreign matter must be flushed from air and water lines supplying the atomizing heads before the head valves are opened and heads used.

If foreign matter reaches the interior of the heads, each head must be disassembled and thoroughly cleaned - a very tedious and time consuming process.

DON'T TAKE SHORT CUTS!

Properly installed and maintained, this system will provide you with years of trouble free service with minimal attention. Following the steps in the maintenance section will insure this. Please read and understand this section.

This system is designed for direct humidification of an area. DO NOT install in duct or air handling systems. Contact Herrmidifier Company, Inc. for information on our Herrmidicool system if direct humidification is not possible.

SYSTEM OPERATION

The Dual-Pneumatic atomizing system operates with air and water under pressure - air at approximately 30 psi and water at approximately 32 psi. Air consumption is figured at 12 SCFM per 100 lbs. of water atomized per hour. A safety factor of 20% should be added for any potential line losses.

Operation is fully automatic and controlled by humidistats. When the relative humidity (RH) level drops below the setting on the control humidistat, the contacts on the control humidistat close the circuit, opening the solenoid valve on the air control section. As soon as pressure builds up sufficiently to atomize, the air pressure switch closes the circuit to the water solenoid valve, starting water flow. Water can not flow without adequate air pressure. All valves close if there is a power failure. The water solenoid will close if there is an air compressor failure.

When the desired level of relative humidity is reached, the humidistat breaks the circuit and all solenoid valves close, shutting off flow of air and water to the heads. The three-way water solenoid bleeds off the water pressure instantly allowing the water valve seat in the head to close immediately, preventing any chance of dripping or spitting. At the end of each cycle, the air pressure is allowed to fall gradually to zero through the heads, blowing all water from the mixing chamber of the heads. The stainless steel cleaning needle connected to the diaphragm, cleans the water orifice of the heads at the end of each ON cycle. By completely drying the mixing chamber of each head, mineral build-up is prevented. This cleaning is so effective that YEARLY maintenance is usually all that is required!

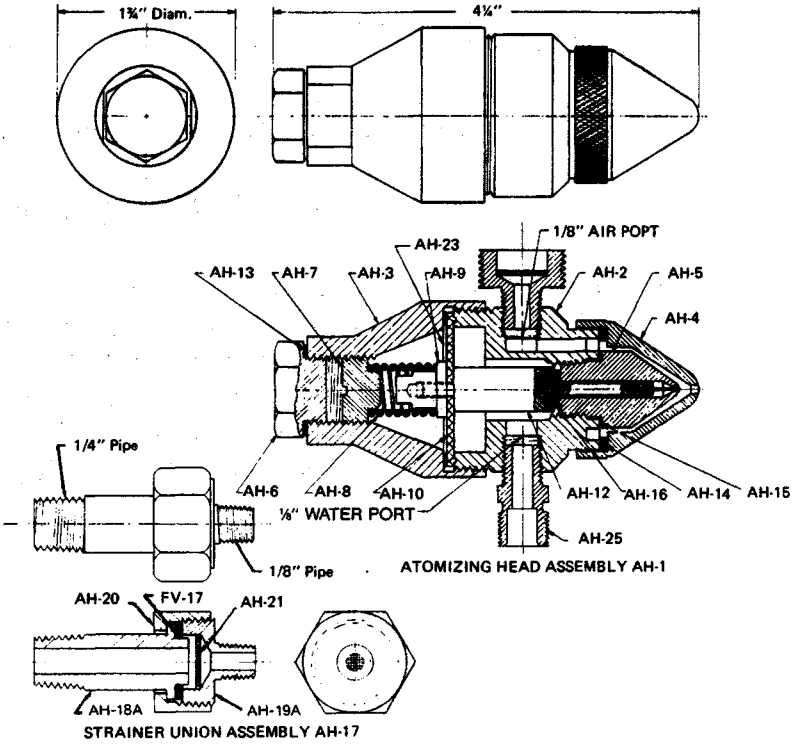
SYSTEM COMPONENTS

A Dual-Pneumatic atomizing system consists of atomizing nozzles, control sections, humidistats and an adequate air and water supply.

Atomizing Heads

Atomizing heads are available in capacities of 6, 8, 10, 12 or 15 pounds of water per hour.

The proper head capacity for a given project is selected on the basis of installed height of the head above the floor, clear area available for spray patterns to evaporate, and conditions to be maintained in the humidified space.



Atomizing head assemblies are available in three versions.

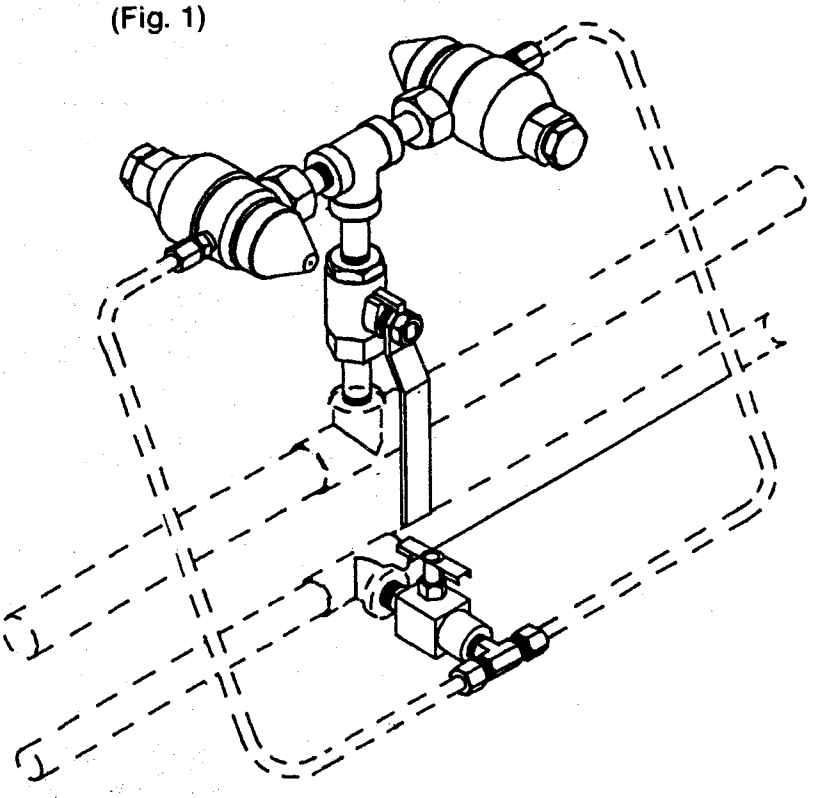
The **A-17 assembly** (Fig. 1) consists of two identical capacity heads spraying in opposite directions and is used when areas are clear of obstacles in both directions and where distances shown in installation section can be observed.

The **B-13 assembly** (Fig. 2) consists of two identical capacity head assemblies discharging in the variable directions of discharge. This assembly offers maximum installation flexibility with 360 degrees of adjustment and may be used when installation is running along a wall.

The **A-33 head assembly** (Fig. 3) is a single head assembly for use in restricted areas.

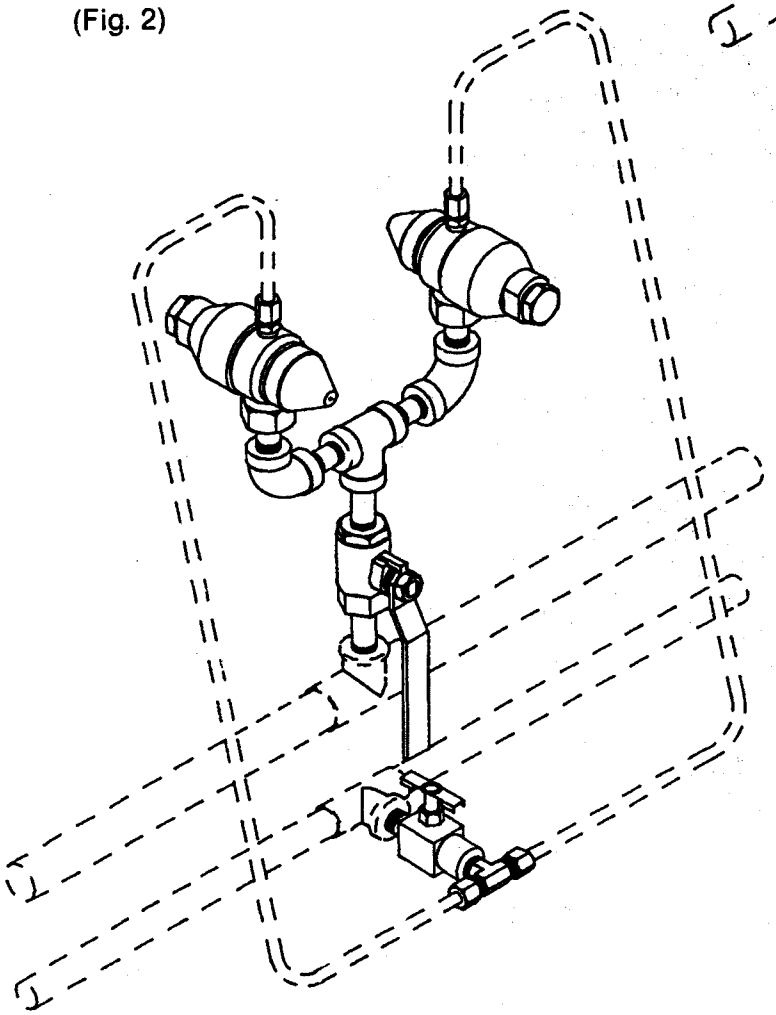
A-17 HEAD ASSEMBLY

(Fig. 1)



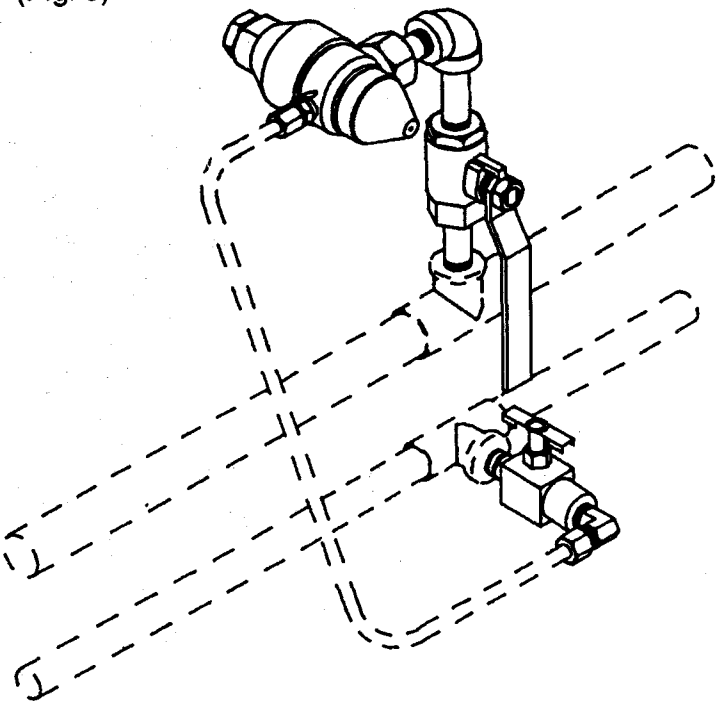
B-13 HEAD ASSEMBLY

(Fig. 2)



A-33 HEAD ASSEMBLY

(Fig. 3)



Control Sections

EXHIBIT C

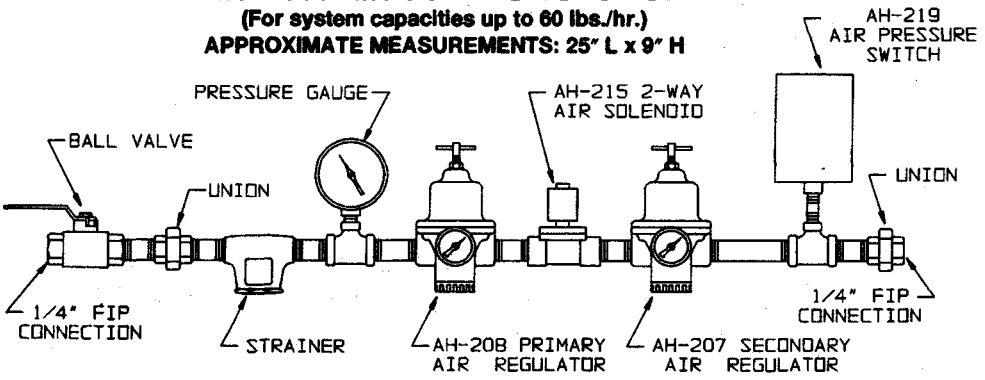
The control sections provide the following features:

- Regulates plant air and water to desired operating pressures.
- Monitors the flow of air and water to the heads via solenoid valves.
- Air pressure switch prevents flow of water to heads until sufficient air pressure for atomization.
- Dripless operation & automatic purging of minerals from heads during system cycling.

The standard air control sections are available in three different sizes and the water control sections are available in two different sizes (see below):

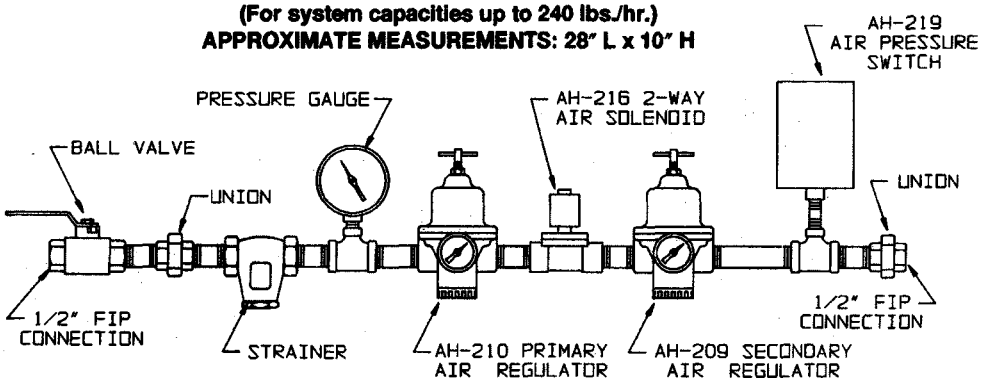
AH -1000 AIR CONTROL SECTION

(For system capacities up to 60 lbs./hr.)
APPROXIMATE MEASUREMENTS: 25" L x 9" H



AH -1020 AIR CONTROL SECTION

(For system capacities up to 240 lbs./hr.)
APPROXIMATE MEASUREMENTS: 28" L x 10" H



AH -1050 AIR CONTROL SECTION

(For system capacities up to 500 lbs./hr.)
APPROXIMATE MEASUREMENTS: 32" L x 10" H

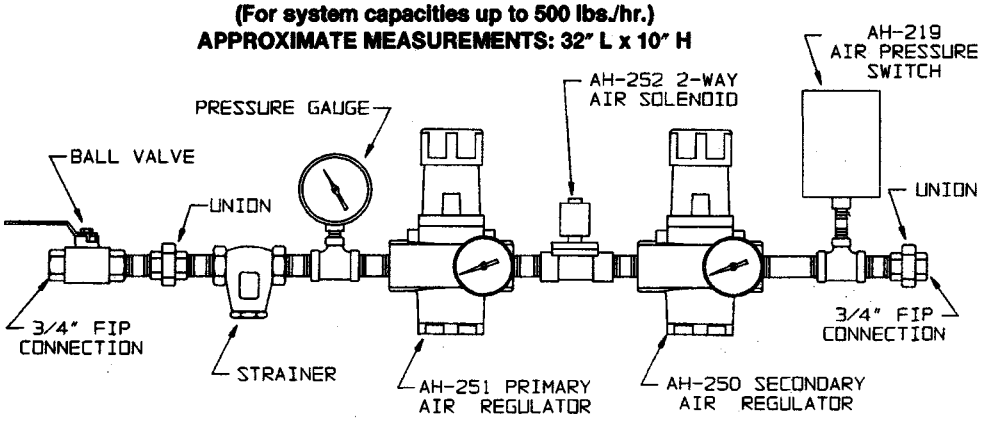
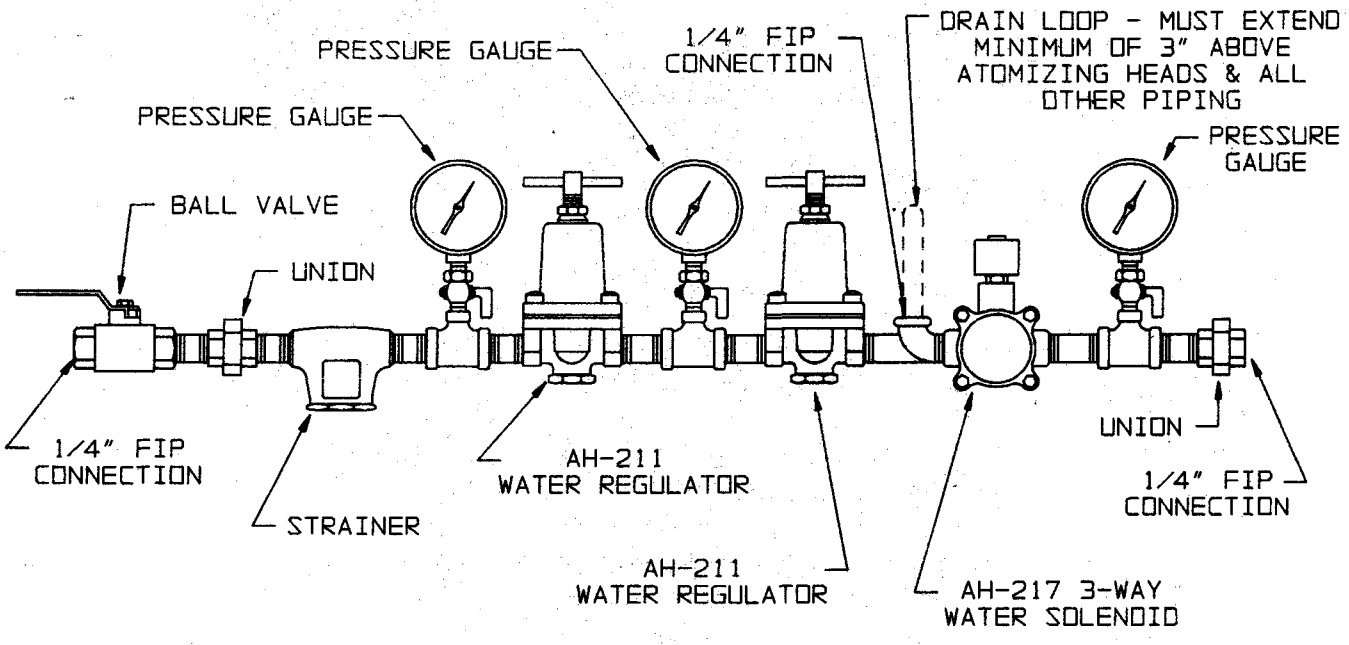


EXHIBIT C

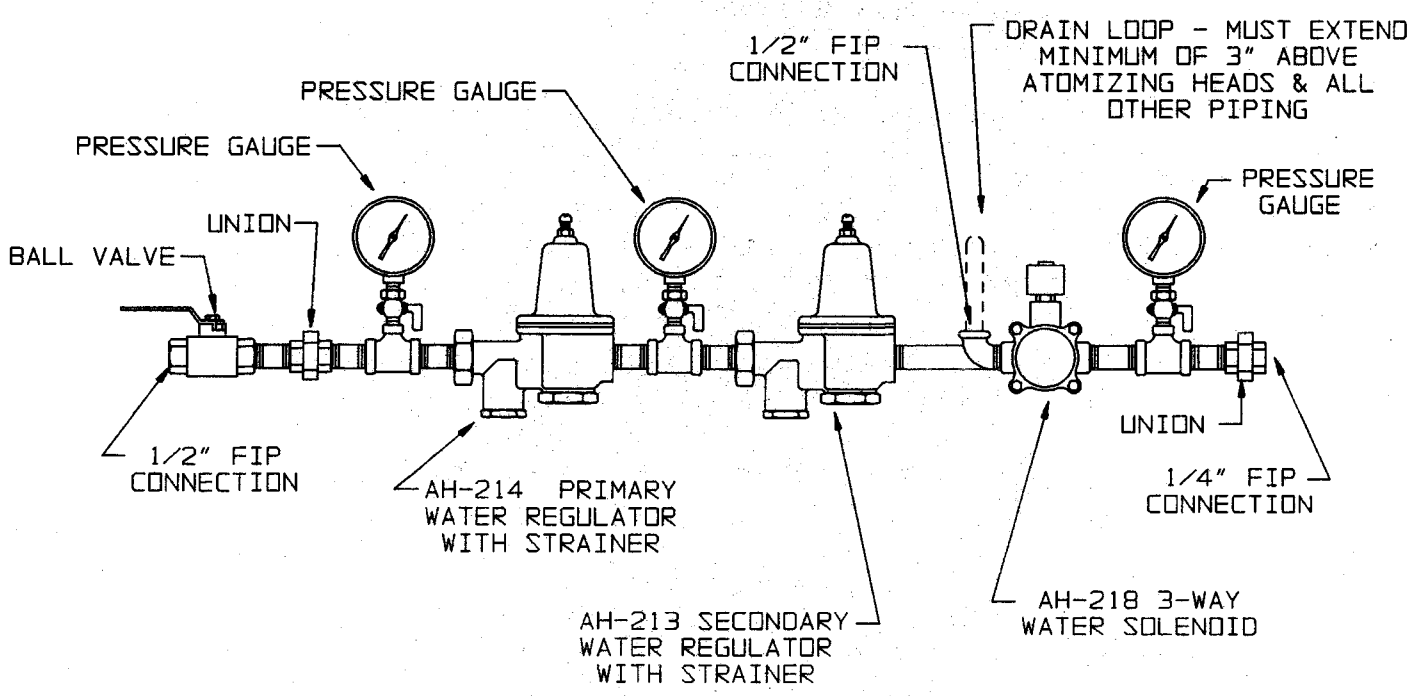
AH -1001 WATER CONTROL SECTION

(To be used with AH-1000 Air Control Section)
APPROXIMATE MEASUREMENTS: 24" L x 7" H



AH -1021 WATER CONTROL SECTION

(To be used with AH-1020 or AH-1050 Air Control Sections)
APPROXIMATE MEASUREMENTS: 33" L x 8" H



Size	Pipe Connections	Maximum Capacity	Minimum Pipe Size to Heads Air	Water	Water Drain
1/4"	1/4" FPT	60 lbs/hr	1/2"	1/4"	1/2"
1/2"	1/2" FPT	240 lbs/hr	3/4"	1/2"	1/2"
3/4"	3/4" FPT Air 1/2" FPT Water	500 lbs/hr	3/4"	1/2"	1/2"

Controls

The standard Dual-Pneumatic atomizing system requires "On-Off" humidistats for operation. Controls may be provided by others, in which case, consultation with Herrmidifier is essential to insure proper operation.

Several control options are available from Herrmidifier. The standard system consists of a control humidistat and a high-limit (safety) humidistat (a hygrometer is optional with any Dual-Pneumatic system).

For critical applications where extreme tolerances or temperature and humidity requirement demand it, an electronic humidistat may be required.

Air Supply

Plant air can be used if supply is adequate. All heads use 12 SCFM of air per 100 pounds of atomized water delivered. However, a safety factor of 20% should be added for line losses.

Air should run through a minimum of a cyclone type moisture separator and a .5 micron coalescing filter (supplied by others) to insure that it is dry and oil free before it reaches the air control section and the heads.

An air compressor used only for humidification can be operated at 60-70 psi. No need to run at 125-150 psi as this would waste energy.

Water Supply

With any air/water atomization system, any solids in the water will be distributed into the air during atomization. Always check the water quality before installing an air/water atomization system. Herrmidifier, or your local lab, can perform this test for you. The Dual Pneumatic atomizing system is available for raw and demineralized water supplies. With your water analysis, you and your Herrmidifier Representative can determine what, if any, water treatment is required.

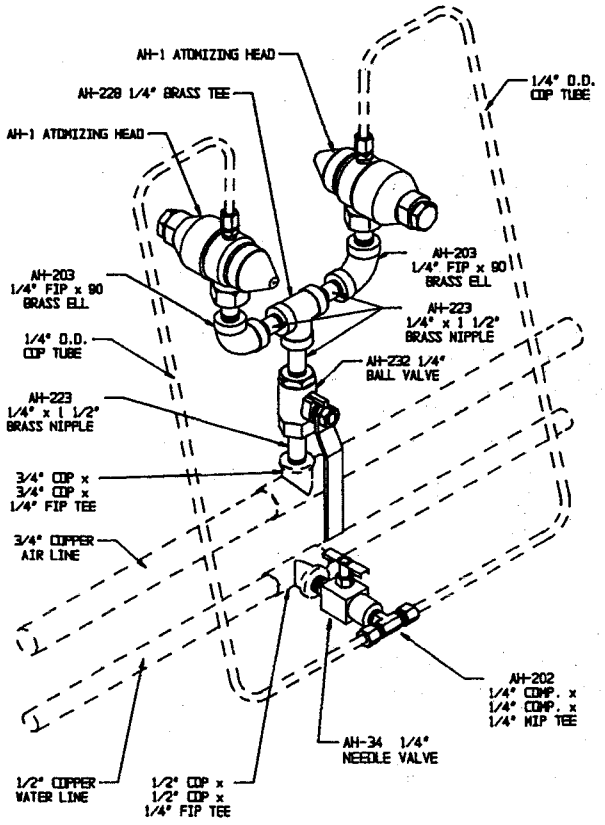
SYSTEM LAYOUT and INSTALLATION

Be sure all parts are used in the system in their proper order and direction of flow. **DO NOT** leave out any parts because they have a different function in the operation of the system.

Layout of Head Assemblies

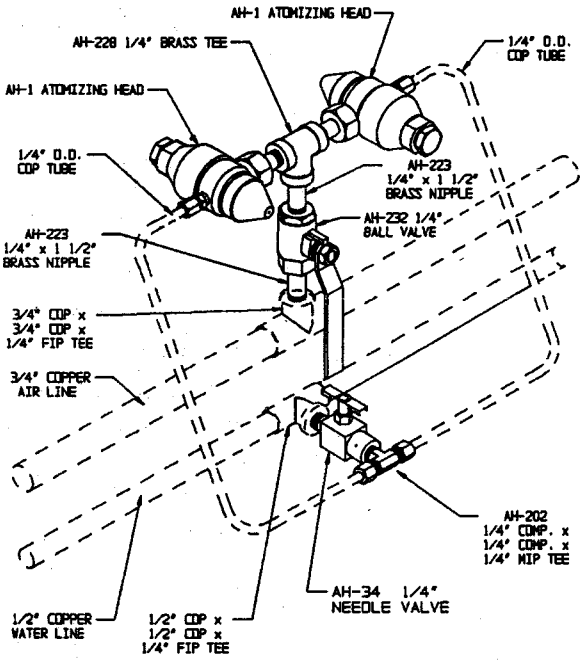
1. Be sure all fittings are in their proper place in all head assemblies (See Drawings B-13, A-33, and A-17). do not add parts to these assemblies without permission from Herrmidifier. Head assemblies for systems using demineralized water supplies will have the same components as shown (on this page) however their materials may be different (ie: PVC or stainless steel).

B-13 HEAD ASSEMBLY



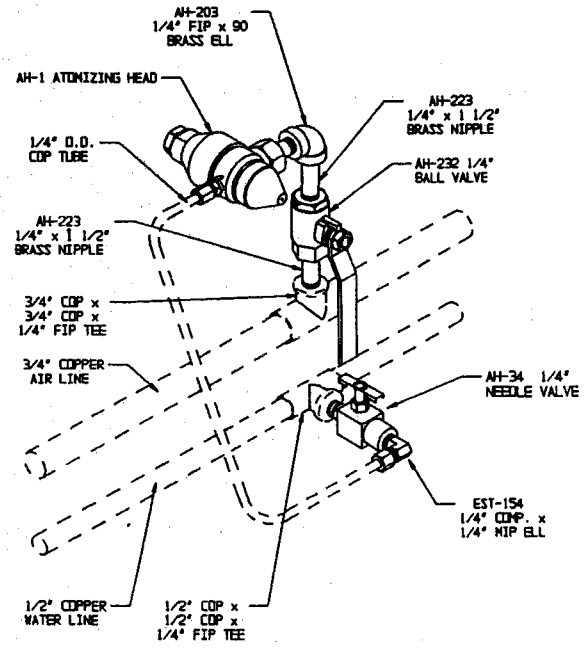
NOTE: ALL PARTS SHOWN WITH SOLID LINES ARE SUPPLIED LOOSE BY HERRMIDIFIER FOR FIELD ASSEMBLY. ALL OTHER PARTS SHOWN WITH DASHED LINES ARE SUPPLIED BY OTHER.

A-17 HEAD ASSEMBLY



NOTE: ALL PARTS SHOWN WITH SOLID LINES ARE SUPPLIED LOOSE BY HERRMIDIFIER FOR FIELD ASSEMBLY. ALL OTHER PARTS SHOWN WITH DASHED LINES ARE SUPPLIED BY OTHER.

A-33 HEAD ASSEMBLY



NOTE: ALL PARTS SHOWN WITH SOLID LINES ARE SUPPLIED LOOSE BY HERRMIDIFIER FOR FIELD ASSEMBLY. ALL OTHER PARTS SHOWN WITH DASHED LINES ARE SUPPLIED BY OTHER.

2. The smallest spray pattern is experienced at low levels of relative humidity and high temperatures, and the largest pattern at the high levels of relative humidity and low temperatures. If the head discharges directly into a **warm** air stream that is moving in the same direction as the head spray discharge, any size head can be used. (This is found when heads are located at discharge grills of an air handling system.) The following chart is a good guide to follow in selecting proper head capacity:

HEAD CAP.	Installed Height	Use with RH Levels	Max Spray Dia.	Spray Visible to This Point from Hd in Low (Under 45%) RH	Med (45-60%) RH	High (Over 60%) RH
6 lbs/hr	Any	Any	2½ ft.	10 ft.	13 ft.	16 ft.
8 lbs/hr	12 ft +	Any	2½ ft.	10 ft.	13 ft.	16 ft.
10 lbs/hr	14 ft +	Up to 85%	3 ft.	11 ft.	14 ft.	17 ft.
12 lbs/hr	16 ft +	Up to 75%	3½ ft.	12 ft.	15 ft.	18 ft.
15 lbs/hr	18 ft +	Up to 65%	4 ft.	13 ft.	17 ft.	21 ft.

NOTE: The above table applies to installations at normal room temperatures (68°-75°F) and with no forced air movement in the area.

FOR TEMPERATURES 50°-67°F: Use first smaller head size
FOR TEMPERATURES 32°-49°F: Use second smaller head size.

EXAMPLE: 18 ft. installed height @ 70° - 65% RH: Select 15 lb/hr head
@ 55° - 65% RH: Select 12 lb/hr head
@ 36° - 65% RH: Select 10 lb/hr head

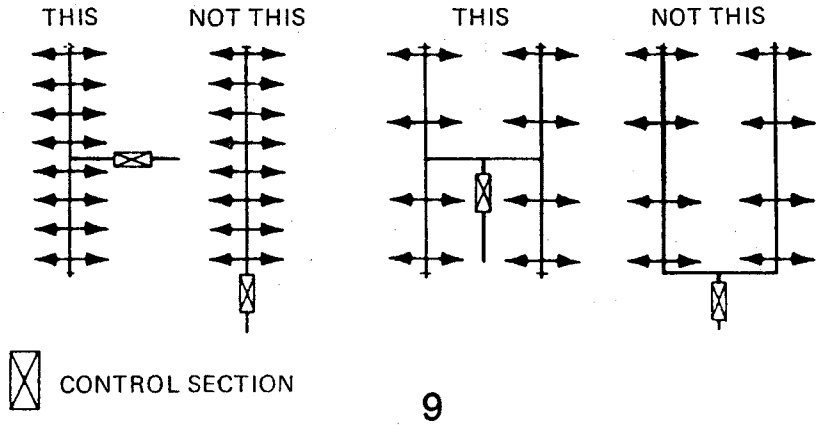
Important: Obstructions such as columns, stacks of materials, etc. may indicate that even a lower capacity head might be preferred. Good air movement in the space results in more rapid evaporation of the atomized water into the vapor state with shorter spray patterns being visible. However, very high air movement can carry droplets causing them to impinge on objects - especially at high levels of RH.

3. The number of head assemblies required should be calculated and then properly arranged to provide uniform coverage.
4. Do not locate heads in a manner where the spray will contact a wall, machine, unit heater, pipes, columns, conveyor, lights, wires, or obstructions. Distance from such obstructions should not be less than the maximum visible spray pattern length (See Chart above).
5. Heads should be located so that the discharge is away from personnel to insure that droplets and evaporative cooling will not cause discomfort.
6. Do not locate heads in such a manner that they discharge directly toward each other, unless they are further apart than twice the maximum distance the spray pattern is visible (See Chart above).
7. In all cases, the heads can be further apart than the maximum visible spray pattern. Due to Dalton's Law of Partial Pressures, the water vapor travels throughout the area very rapidly, and a uniform level of relative humidity will be attained and maintained automatically.
8. Pipe runs should be kept as short as possible.
9. Head assemblies must have less than 100 feet of pipe run between the control section and the farthest head assembly.
10. Head assemblies A-17 and A-33 should be a minimum of 4 ft. apart on air and water pipes. Head assembly B-13 should be mounted a minimum of 8 ft. apart.

11. It is recommended that the heads be located above the air and water lines. However, if this is not practical for installation or aesthetic reasons, the heads may be hung below the air and water lines. In this case the 3/4" air lines should be run on the bottom and the 1/2" water line run on top. Air and water takeoffs must always come off the top of the lines regardless of the position of the heads. The heads may NEVER be positioned more the 18" vertically from the air and water lines.
12. Heads installed near a wall with the spray directed away from the wall should be kept at least one foot away (from the wall) to allow for start-up adjustment on the heads.
13. Use ONLY copper or plastic air and water lines. DO NOT USE IRON, STEEL OR GALVANIZED PIPE as these types are especially susceptible to scaling and flaking, which can cause jamming of the head mechanism. If iron, steel or galvanized piping must be used before the system, a filter MUST be installed at the transition.
14. Air and water lines MUST be located so that a straight level run can be maintained from the control section to the heads. Avoid excessive curves and NEVER allow loops in the piping as these will trap air and debris. ALL HEADS MUST BE LEVEL AND AT THE SAME ELEVATION. If loops are unavoidable in routing piping, air vents must be installed at the high point of the vertical drop.
15. Hose bibs, supplied by others, must be used on the ends of ALL water and air lines for each in maintaining the system.

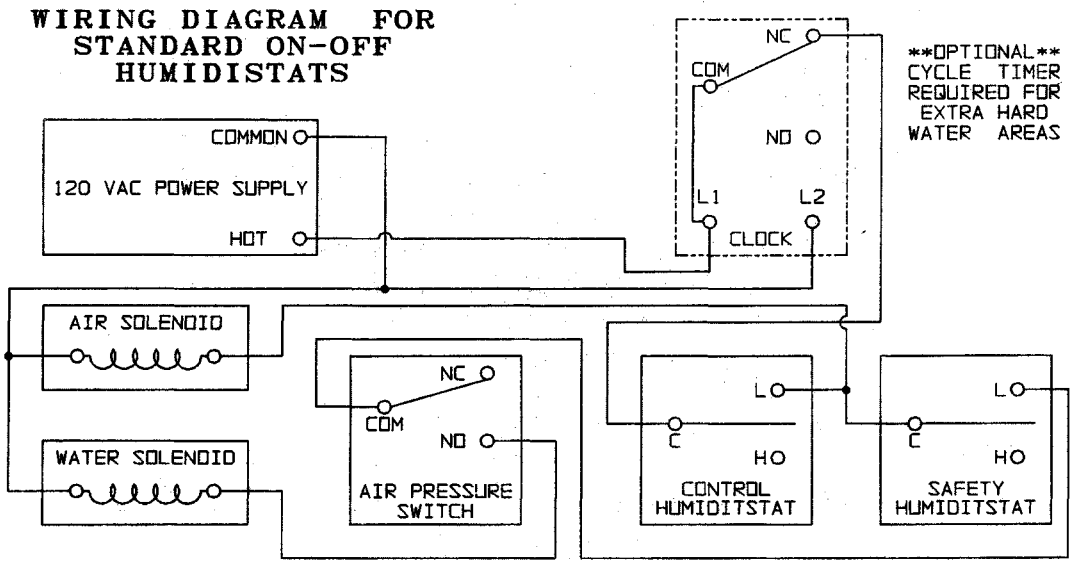
Control Sections

1. Control sections should be placed where they are easily accessible and protected from traffic damage.
2. Control sections should be located level with or below air and water lines, never above. Where heads are located high, it is advisable to locate the control section at a height that is accessible with a small ladder. The 1/4" control sections can be mounted a maximum of 8' below the height of the heads and the 1/2" and 3/4" control sections can be mounted a maximum of 30' below the height of the heads. If the control sections are mounted at a level different from the heads, it is recommended that air and water gauges be placed on the lines at the height of the heads because the pressure readings at the control sections and heads will differ.
3. Always be sure the drain from the 3-way solenoid extends a minimum of 3 inches above the heads, pipe run or control sections. It is advisable to place a union on the drain line near the control section. If the drain loop is not used, water will siphon out of the system and allow air into the water lines causing system malfunction.
4. Feed lines from the control section to heads should be placed at the midpoint of the pipe run to equalize pressure and flow in the system. (See Examples)

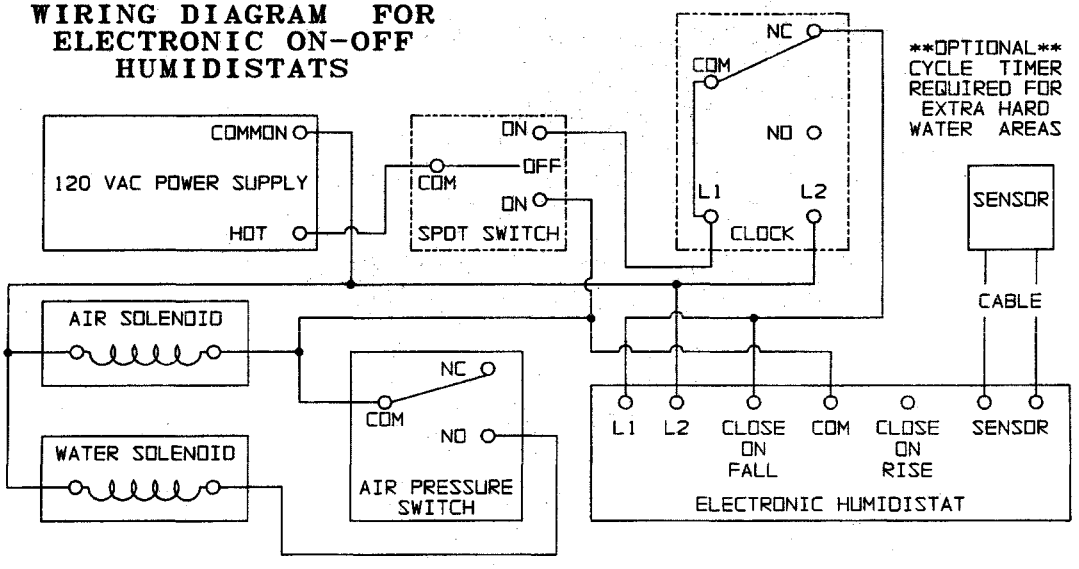


Control Location

1. Humidistats are to be at a protected location, on a column or inside wall. They should be located so they are not affected by the discharge from the heads, heaters or air conditioners, and they should be protected from direct sunlight. There must, however, be sufficient clearance around the humidistats to properly sense the relative humidity of the surrounding air.



NOTES:
1. ALL WIRING TO BE DONE IN ACCORDANCE WITH ALL LOCAL & NATIONAL ELECTRICAL CODES.
2. MOUNT HUMIDISTATS APPROX. 5'6" FROM FLOOR ON INSIDE WALL OR COLUMN.
3. DASHED LINE INDICATES: SUPPLIED BY OTHER



NOTES:
1. ALL WIRING TO BE DONE IN ACCORDANCE WITH ALL LOCAL & NATIONAL ELECTRICAL CODES.
2. MOUNT HUMIDISTATS APPROX. 5'6" FROM FLOOR ON INSIDE WALL OR COLUMN.
3. DASHED LINE INDICATES: SUPPLIED BY OTHER

Other Considerations

1. Air must be free of oil and water. It is wise to place filters on both the air and water feed lines ahead of the control sections. Herrmidifier recommends the use of a moisture separator and trap and a coalescing filter on the air line.
2. To prevent condensation on uncovered cold water pipes in the system, it is advisable to consider using aftercooler water from the air compressor in the humidification system. If this is not practical, a heater for the system's water supply may be used.
3. If the water supply pressure fluctuates, and doesn't maintain 50 psi at the highest level of a head assembly, it will be necessary to supply a water pressure booster pump or bladder tank for the system. Consult Herrmidifier for assistance in sizing pump and tank.
4. With extremely large systems, supply piping should be sized as follows:

System Capacity—Water	Water		System Required Air	Air	
Up to 1,000 lbs/hr	½"	MINIMUM	10 - 24 CFM	¾"	MINIMUM
1,000 - 2,000 lbs/hr	¾"		24 - 45 CFM	1"	
2,000 - 3,000 lbs/hr	1"		45 - 70 CFM	1¼"	
Over 3,000 lbs/hr	1¼"		70 - 100 CFM	1½"	

Supply piping should be sized to control sections so as to minimize pressure drop in accordance with table below:

LOSS OF AIR PRESSURE DUE TO FRICTION

*In psi per 1000 ft. of pipe at 100 P.S.I.G.

Cu. Ft. Free Air Per Min.	PIPE SIZE					
	½"	¾"	1"	1¼"	1½"	2"
10	6.50	0.99	0.28	--	--	--
20	25.90	3.90	1.11	0.25	0.11	--
30	58.5	9.01	2.51	0.57	0.26	--
40	--	16.0	4.45	1.03	0.46	--
50	--	25.1	6.96	1.61	0.71	0.19
60	--	36.2	10.0	2.32	1.02	0.28
70	--	49.3	13.7	3.16	1.40	0.37
80	--	64.5	17.8	4.14	1.83	0.49
90	--	82.8	22.6	5.23	2.32	0.62
100	--	--	27.9	6.47	2.86	0.77
125	--	--	48.6	10.2	4.49	1.19
150	--	--	62.8	14.2	6.43	1.72
175	--	--	--	19.8	8.72	2.36
200	--	--	--	25.9	11.4	3.06
250	--	--	--	40.4	17.9	4.78
300	--	--	--	58.2	25.8	6.85
350	--	--	--	--	35.1	9.36
400	--	--	--	--	45.8	12.1
450	--	--	--	--	58.0	15.4
500	--	--	--	--	71.6	19.2

LOSS OF WATER PRESSURE DUE TO FRICTION

*In psi per 100 ft. of Type "K" copper tube at 60 P.S.I.G.

Flow Gals. Per Min.	PIPE SIZE					
	½"	¾"	1"	1¼"	1½"	2"
1	1.3	.25	.06	--	--	--
2	4.5	.85	.23	.07	--	--
3	9.0	1.70	.45	.15	.063	--
4	15.0	2.80	.75	.25	.10	--
5	22.0	4.20	1.10	.36	.16	.042
6	31.0	5.80	1.50	.50	.22	.058
7	40.0	7.50	2.00	.65	.28	.073

*For longer or shorter lengths of pipe, the friction loss is proportional to the length.

EXAMPLE: AIR LINE 500 ft. — one-half of the above
4,000 ft. — four times the above.
WATER LINE 50 ft. —one-half of the above
400 ft. — four times the above.

5. Completely explosion proof control sections are available for location inside the explosion proof area. ALL components are explosion proof. If control sections can be located outside the explosion proof area, standard control sections can be used by providing air operated humidistats for installation in the explosion proof area to activate the control section components through air pressure switches.
6. Follow start-up procedure EXACTLY. Repeat the start-up procedure every time the system is drained or cleaned.

EXHIBIT C

START-UP PROCEDURES

Step 1. **CHECK INSTALLATION WITH THE LAY-OUT DRAWING.**
Be sure that the equipment has been installed exactly as layed-out on the system drawing — location of head assemblies, control sections, humidistats, etc. and that the proper size pipe has been used on all air and water supply lines as well as drain lines. (Frictional losses and pressure drops were considered in making the lay-out).

Step 2. **CLOSE ALL AIR AND WATER VALVES AT EACH HEAD ASSEMBLY.**
It is vitally important that no foreign matter in the supply lines — air and water — gets into the heads.

Step 3. **CLEAN MAIN SUPPLY LINES TO CONTROL SECTIONS.**
Close air and water valves on the incoming side of all control sections. Start the air compressor. Open the main valves at the air compressor and water source. Break the unions just ahead of the incoming air and water pressure gauges of the control sections.

AIR MAIN LINE: Put on safety glasses. Place a cloth over the open air line to catch any flying debris. Place a bucket over the end of the air line. Slowly open the valve and let the air line blow until clean.

DO NOT LOOK INTO THE BUCKET WHILE THE AIR IS BLOWING. Close the valve and retighten the union securely.

WATER MAIN LINE: Repeat the above procedure for the water line.

Clean lines to all control sections as shown above.

Step 4. **CHECK ELECTRICAL WIRING OF CONTROLS.**
Set the SAFETY humidistat to maximum.

Set the CONTROL humidistat to 20%.

NOTE: If only one humidistat is used, set to 20% or switch it to "OFF".

Open air valve **ONLY** to feed air to control section. Do **NOT** open water valve.

Adjust air pressure regulator of control section to 30 PSI. Slowly move the CONTROL humidistat to a higher RH until you hear a "Click" indicating the 2-way solenoid valve on the air control section has opened. When the pressure in the air line rises to the setting of the air pressure switch, you will hear a second "click" indicating the 3-way solenoid valve on the water line has opened.

NOTE: If only one humidistat is used, follow above procedure slowly raising RH setting of if switch is used, turn to "ON".

Reduce the setting on the SAFETY humidistat until you hear a click indicating the 3-way solenoid on the water line has closed. (If no safety humidistat is used, skip the step).

Open the **AIR** valve **ONLY** on one pair of heads. There should be a constant flow of air from the heads with no flow of water. This will indicate that the controls for the control section are properly wired. Make any corrections needed. Close the air valve after determining wiring is correct.

Repeat the above at each control section in the system.

Step 5. **CLEAN DISTRIBUTION LINES FROM CONTROL SECTIONS TO HEAD ASSEMBLIES.**
IMPORTANT: Be sure all air and water valves at head assemblies are closed (Step 2).

AIR LINES: Put on safety glasses. With **CONTROL** humidistat "ON" and air valve at control section open, place bucket and cloth over hose bib at end of each air line and slowly open the hose bib and allow line to blow clean.

DO NOT LOOK INTO BUCKET WHILE AIR IS BLOWING. Close hose bib. Repeat on all air lines from each control section.

WATER LINES; (Air valve at control section should be open). Set SAFETY humidistat at maximum and CONTROL humidistat "ON". Open water valve at control section. Place bucket or hose on ends of water lines and slowly open hose bibs. Allow water to flow until clean. Throttle valve to avoid splashing. Close hose bib. Close air and water valves at control section. Repeat on all water lines from each control section.

Step 6. STARTING THE SYSTEM.

Close air and water valves at all control sections. Open air valves only at all head assemblies. Set humidistats high enough to assure system operation. Open AIR valve at control section. With air flowing through heads, adjust primary air pressure regulator (or compressor) to maintain 55 PSI. Adjust control section air pressure regulator to 30 PSI.

With water valve open at water source, open the control section water valve and the water valve of the ONE head assembly located the GREATEST distance from the control section. Adjust the primary water pressure reducer to provide 45-50 PSI to the control section. Adjust control section water valve to provide 32-35 PSI to heads.

Open the water valve at each head assembly checking and correcting for air and water leaks as you go.

CAUTION: Never let water pressure get below air pressure as air will then get into water lines and necessitate bleeding of lines.

Repeat procedure on all control sections and primary reducers.

Normally, with all heads operating, it will be necessary to again adjust the primary water pressure reducer to 45-50 PSI and control section water pressure regulator to 32-35 PSI. Tighten the locknut on all WATER pressure regulators — primary and control section. All further adjustments will be made on air controls and at heads.

With the entire system in full operation, check for leaks in all air and water lines, fittings, connections, valves, control sections and head assemblies. Correct as required.

Step 7. FINAL ADJUSTMENT TO HEADS.

Remove cap (AH-6) of each head. This cap is at the non-discharge end of the head and covers the head adjusting "spring tension nut" (AH-7). Slowly turn this adjusting nut in a clockwise direction until no water is discharged by the head. Use care to avoid damage to the valve seat. Then, back off this adjusting nut TWO full turns counter clockwise. This may result in an excessively heavy spray but this will be adjusted later at the control section. Replace cap. Repeat this operation on every head on the system.

NOTE: Maintain air pressure at 30 PSI and water pressure at 32-35 PSI. Do **NOT** let air pressure exceed water pressure.

Step 8. BALANCING THE SYSTEM.

The final and most important adjustment will be made at the air pressure regulator of each control section. Adjust the air regulator to 30 PSI; adjust water pressure for proper head capacity. Increasing the air pressure to the heads results in smaller droplet size in discharge pattern — and vice versa. Spray pattern should be visible to at least ten feet from the head to assure rated capacity. With the system in full operation, adjust the SAFETY humidistat to 10% above the desired level.

Remove the cover of this humidistat and set the low and high limit stops to this R.H. setting so the setting cannot be changed. Replace cover.

Move the CONTROL humidistat setting alternately lower and higher to cycle the system "OFF" and "ON" several times until all gauges become, repetitive in action and readings.

EXHIBIT C

Water Pressure Settings

Head Capacity	Water Pressure Setting (PSI)
6	34.5
8	38.0
10	33.0
12	34.7
15	37.0

NOTE: A new system may require some adjustment until all parts are properly seated during break-in. This period may last about two weeks. After that, adjustments may not be required, but should be checked on a regular schedule.

Set the control humidistat at the desired level.

CAUTION:
1. Do not balance the system by adjusting individual heads. Each head has been adjusted to provide its design capacity.
2. Do not throttle any valves at control sections or head assemblies to get final adjustment.

OPERATING INSTRUCTIONS

The Dual-Pneumatic Atomizing System utilizes air and water under pressure to atomize the water into tiny droplets (2-15 microns: average 7½). These droplets rapidly evaporate to a gaseous state to raise the level of relative humidity.

Each Dual-Pneumatic Atomizing System is custom designed for each application to maintain the level of relative humidity desired under the conditions to be maintained with the equipment as it exists in the area at the time. If ANY conditions change, the demand load for humidification can be affected.

Once the system is installed, checked out and started in accordance with the instructions contained in this manual, operation is completely automatic to maintain the level of relative humidity. With air and water supplied to the equipment, the system cycles "ON" and "OFF" as needed.

Set the desired level of RH on the control humidistat, 10% more on the safety humidistat, and you can walk away and forget it.

If there is a POWER FAILURE, the system automatically cuts off.

If there is an AIR COMPRESSOR FAILURE, the system automatically cuts off.

If there is a FAILURE OF THE WATER SUPPLY, the heads will blow air.

If the water supply PRESSURE is lost or reduced, the heads will "sputter".

If the CONTROL humidistat fails to cut off the system, the SAFETY humidistat will cut off the WATER to the heads at 10% above the desired level of R.H. You cannot over-humidify to any greater extent than the 10%!

The atomizing heads operate drip free and are self-cleaning and self-purging at the end of every "ON" cycle. The system is designed to go "ON" and "OFF". Without this cycling, the cleaning and purging action is lost.

The system can be started and stopped by merely operating the control humidistat.

All humidification equipment needs periodic maintenance. The procedure for the Dual-Pneumatic System is spelled out in that section of this manual. Otherwise, the operation is fool-proof and dependable.

EXHIBIT C

MAINTENANCE INSTRUCTIONS

The Dual-Pneumatic Atomizing System requires little maintenance to keep it operating properly. In hard water areas and dusty atmospheres, more frequent attention will be required.

NORMAL MAINTENANCE required is as follows:

AIR COMPRESSOR: Follow the air compressor manufacturer's instructions.

ATOMIZING HEADS: Clean dust and debris from the OUTSIDE of the heads as required to keep the spray pattern adequate.

At least ONCE A YEAR, remove the atomizer nozzles (AH-4). Clean these nozzles in a weak acid solution. Do NOT use a wire or other object that will score the nozzle or its orifice. (Herrmidifier can supply a cleaner which will do this job effectively).

AIR & WATER LINES: Blow out all supply lines at least ONCE A YEAR using the procedures covered under start-up of the system in this manual.

Check all joints and valves for leaks ONCE A YEAR.

STRAINERS: Strainers on air and water controls (both primary regulators and control section regulators should be cleaned ONCE A YEAR and replaced as required. Strainer screens (AH-21) in the strainer union assembly (AH-17) of each head should be cleaned ONCE A YEAR.

If air strainers are dirty or oily, it may be necessary to install an air dryer or after cooler on the compressor or a separator on the air line.

HUMIDISTATS: Calibration should be checked with a dependable psychrometer at least ONCE A YEAR and adjusted as needed.

HYGROMETERS: (Relative Humidity Indicators) Use psychrometer to check for accuracy.

PRESSURE REGULATORS: Air and water (primary and control sections). Check operation at least ONCE A YEAR to be sure regulation to desired pressures is being maintained properly.

SOLENOID VALVES: Air and water (control sections). Check operation at least ONCE A YEAR to be sure their operation is proper and valves do not leak.

IMPORTANT: Heads and control sections can be returned to Herrmidifier for complete factory reconditioning to like-new condition at any time.

After the removal and re-installation of heads and control sections, ALWAYS follow the start-up procedure to be sure all foreign matter is flushed from the lines and none reaches the heads.

Your system will last indefinitely if properly maintained.

TROUBLE SHOOTING

EXHIBIT C

HEAVY SPRAY PATTERN (Droplets too large).

ALL HEADS served by one control section: Either this is caused by too low a setting on the air pressure regulator of the air control section which calls for slightly increasing the air pressure or too high a setting on the water regulator of the water control section which requires decreasing the water setting slightly.

NEVER LET AIR PRESSURE EXCEED WATER PRESSURE.

INDIVIDUAL HEADS:

These heads are not getting enough air.

1. Foreign matter may be clogging the screen (AH-21) in the air strainer union (AH-17) of the head.
2. One or more heads served by the same control section may have been IMPROPERLY ADJUSTED by throttling the valves at the head assembly. No valves should ever be throttled!
3. Water nozzle (AH-5) orifice may have been enlarged due to bent cleaning needle on diaphragm (AH-10). Replace parts as required.
4. Atomizer nozzle (AH-4) orifice may have been enlarged due to improper cleaning or dirty air (see maintenance section). Replace parts as required.

SPRAY PATTERN TOO LIGHT

ALL HEADS served by one control section: Either this is caused by too high a setting on the air pressure regulator of the air control section which calls for slightly decreasing the air pressure or too low a setting on the water regulator of the water control section which requires increasing the water setting slightly

INDIVIDUAL HEADS:

Heads are not getting enough water.

1. Water valve at head may have been throttled. No valves should ever be throttled! Adjust head as shown in Step 7 of start-up procedure
2. Foreign matter may be restricting water flow in the water nozzle (AH-5). Cut off air and water valves at head assembly. Remove atomizer nozzle (AH-4) and water nozzle (AH-5) with wrench. Blow out water nozzle with air. DO NOT use wire or hard object that will score inside.

SPUTTERING HEADS

ALL HEADS Served by one control section.

1. Air pressure at heads exceeds water pressure at heads.
   a. Adjust air and/or water pressure at control section so that air pressure is about 2 PSI lower than water pressure.
   b. Three-way solenoid on water control section may be malfunctioning to allow water to leak down drain port when system is operating. This may be caused by dirt under the drain valve seat or a bad valve seat on the drain side of the three-way solenoid.

   NOTE: The drain side of the three-way solenoid should open only when the system shuts off. Approximately one cup of water should be drained from the system between cycles. A greater amount may be a sign of air trapped in the water line. Review start up procedure.

INDIVIDUAL HEADS:

1. Water valve supplying head assembly has been throttled. No valves should ever be throttled.
2. Head improperly adjusted. Follow Step 7 of start-up procedure.
3. Part malfunctioning inside head. Check diaphragm (AH-10), spring (AH-8), and valve disk (AH-16). Correct as required.

INOPERATIVE HEADS (No air or water)

ALL HEADS served by one control section:

1. These heads shut-down because control humidistat is satisfied.
2. If proper RH level has not been attained, check calibration of the control humidistat and adjust if required. Use a dependable psychrometer.
3. Air and water valves serving the control section are not open.
4. Electric current not flowing to control section. Check wiring and supply lines.
5. Compressed air is not reaching the control section. Possible compressor failure.

INDIVIDUAL HEADS

1. Be sure air and water valves at head assembly are fully open.
2. Indicates diaphragm (AH-10) may be ruptured or leaking OR water and air ports clogged. Close air and water valves at head assembly. Remove rear part of head (Bonnet AH-3) with a wrench. Examine the diaphragm (AH-10), spring (AH-7) and valve disc (AH-16). Replace any bad parts. If these parts are all O.K., reassemble the head.

   CAUTION: Use care in reassembling so that cleaning needle is not damaged.

   Remove atomizer nozzle (AH-4) and water nozzle (AH-5). Clean these nozzle ports with air pressure or as recommended under maintenance. DO NOT use a wire or any object that will score the inside or port of the nozzles. Reassemble the head, open the air valve of the head assembly, then the water valve of the head assembly and adjust spray pattern (see Step 7 of start-up procedure).

AIR WITHOUT WATER

ALL HEADS served by one control section: Be sure water valve at control section is open. RH exceeds that set on the SAFETY humidistat. This shuts off water to all heads but allows air to flow. Correct this condition by:

1. Set SAFETY humidistat higher than control humidistat.
2. Make sure CONTROL humidistat is functioning to start and stop system.
3. Check calibration of BOTH humidistats with a dependable psychrometer.
4. Check the setting on the air pressure switch and be sure that the switch is cutting in at 27 psi and out at 25 psi of air pressure. Adjust accordingly by setting high end first at 27 psi and then turning low end up against it.

EXHIBIT C

INDIVIDUAL HEADS:

1. Water cut-off at valve at head assembly.
2. Water nozzle (AH-5) plugged with foreign matter. Correct as above under "spray pattern too light".

HUMIDITY LEVEL TOO LOW

1. Be sure control humidistat is set at desired R.H.
2. Check calibration of CONTROL humidistat and HUMIDITY INDICATOR with dependable psychrometer and adjust as required.
3. Be sure humidistat is not being "influenced" by the spray pattern of a head coming too close to it. Correct as required.
4. Be sure humidistat is not being "influenced" by a cold air stream blowing directly on it. Correct as required.
5. The temperature of the air in the area being humidified may be different than that for which the system was designed. If so AND this changed temperature will now be maintained, additional humidification equipment will now be required. Call your Herrmidifier representative.
6. Exhaust, make-up air or cooling equipment may have been added to the area since the system was designed. These add to the maximum demand load and additional humidification equipment will now be required. Call your Herrmidifier representative.

HUMIDITY LEVEL TOO HIGH

1. Be sure CONTROL humidistat is set at desired R.H. (and safety humidistat set about 10% higher than control).
2. Check calibration of CONTROL and SAFETY humidistats as well as the relative humidity indicator with a dependable psychrometer and adjust as required.
3. Be sure humidistat is not being "influenced" by a hot air stream blowing directly on it. Correct as required.

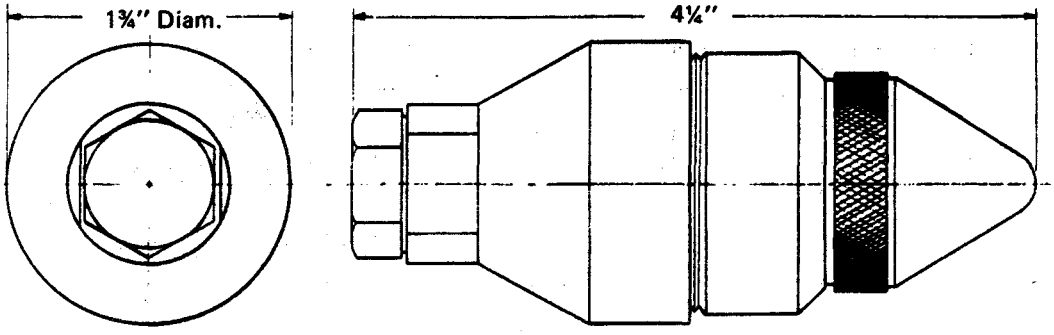
EXCESSIVE AIR CONSUMPTION

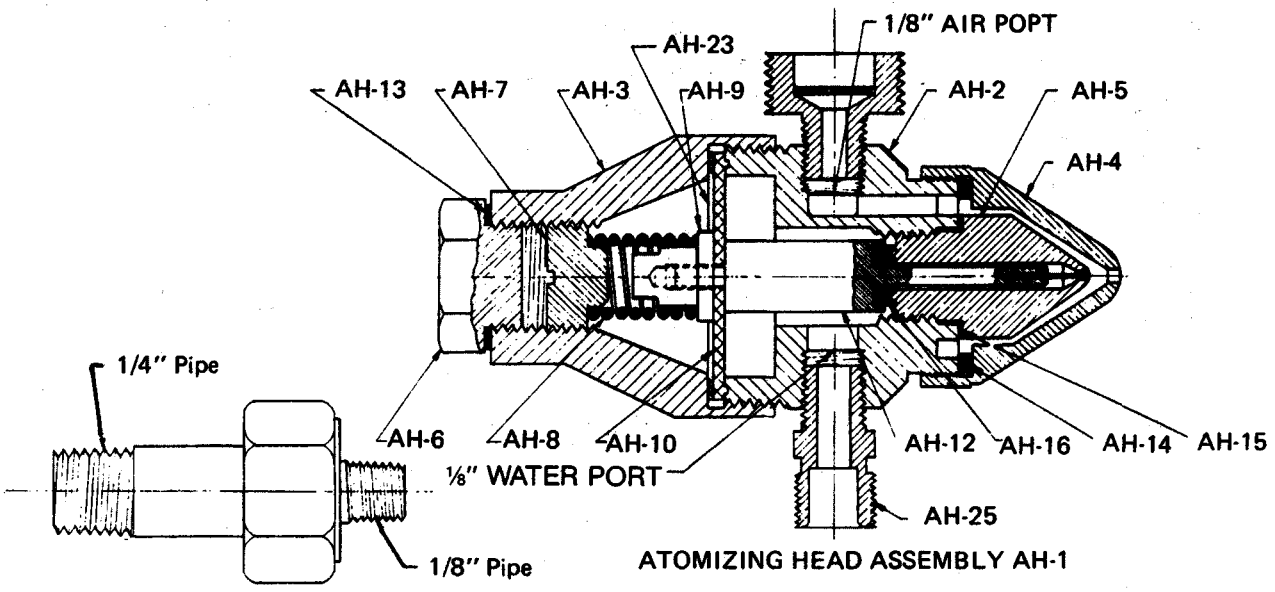
(Dual-Pneumatic Atomizing Systems consume a maximum of 12 CFM or free air delivery per 100 lbs. of water atomized per hour).

1. Check ALL air line joints, valves, valve stems throughout entire compressed air system (not just the dual pneumatic system) for leaks and correct as required.
2. Air compressor may not be delivering rated capacity because of maintenance work needed.
3. Other air operated equipment in plant may be consuming more air than it should because of maintenance work needed.
4. Air operated equipment may have been added to the plant which caused the total air consumption needed to exceed rated capacity of the air compressor.

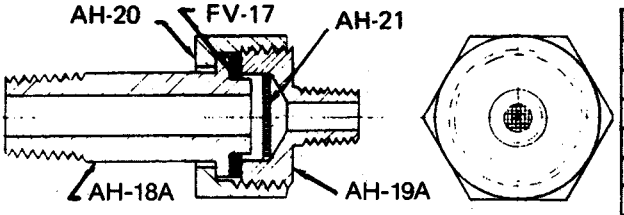
FACTORY ASSISTANCE
Call 717-394-4021
FAX 717-394-0612

EXHIBIT C





ATOMIZING HEAD ASSEMBLY AH-1

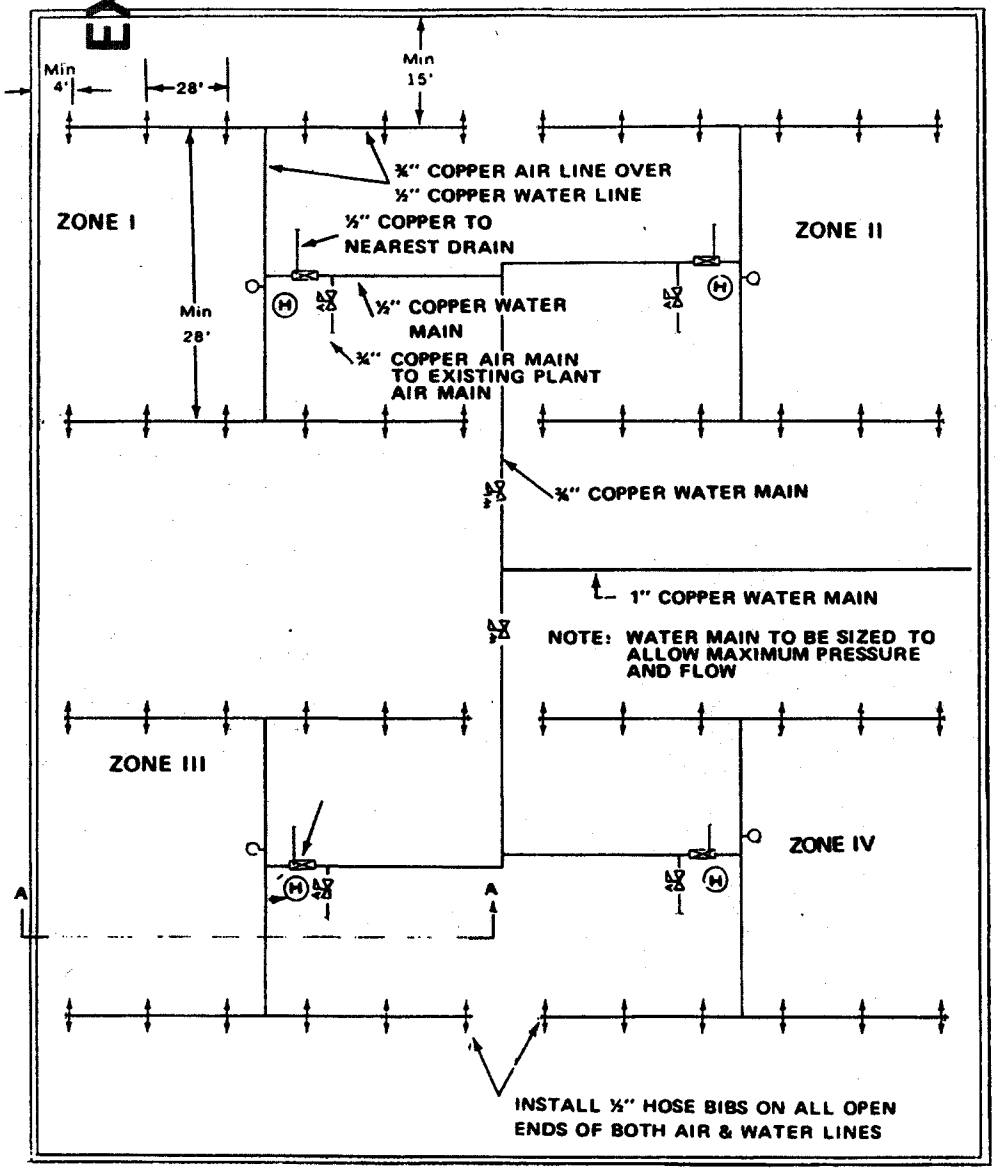


STRAINER UNION ASSEMBLY AH-17

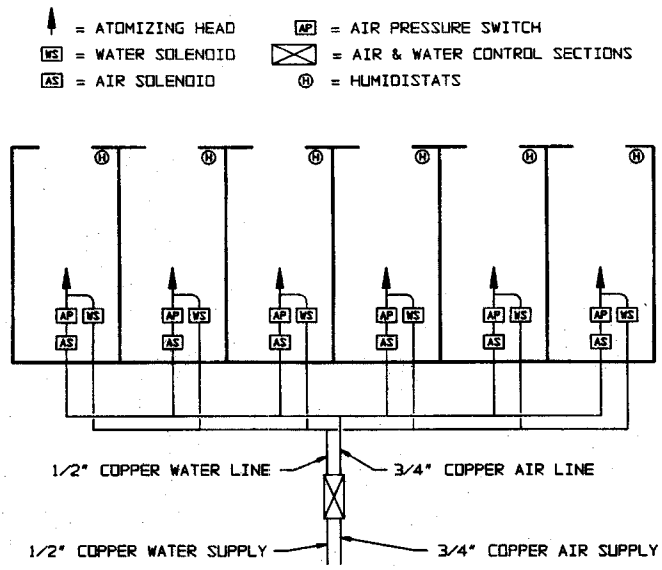
PART NO.	DESCRIPTION
AH-1	Atomizing Head
AH-2	Body
AH-3	Bonnet
AH-4	Atomizer Nozzle
AH-5	Water Nozzle
AH-6	Cap
AH-7	Spring Tension Nut
AH-8	Spring
AH-9	Spring Nut
AH-10	Diaphragm
—	—
AH-12	Valve Stem
AH-13	Cap Gasket
AH-14	Air Nozzle Gasket
AH-15	Water Nozzle Gasket
AH-16	Valve Disk
AH-17	Strainer Union-Assembly
AH-18A	Union Tail Piece
AH-19A	Union Adapter
AH-20	Union Nut
AH-21	Strainer Screen
FV-17	Union Gasket
AH-23	Diaphragm Washer
AH-25	Special Adapter 1/4" x 1/8"

EXHIBIT C

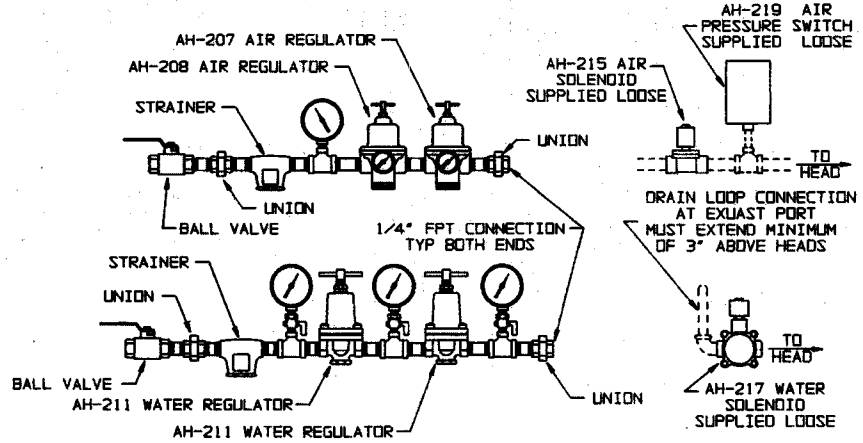
TYPICAL LAYOUT



TYPICAL BANANA ROOM LAYOUT



BANANA ROOM AIR & WATER CONTROL SECTION DETAIL



Invoice

Rep	Date	Invoice #
RCL	8/16/2010	5778

Paragon Engineering Services, Inc.
2201 S. Queen Street
York, PA 17402

EXHIBIT D

Bill To
Booths Pet Supply 1362 Naamans Creek Rd Boothwyn, PA 19061
kreider@earthlink.net

Please review the address information. If any corrections are needed, please copy this invoice, make corrections, and send edited copy with your payment.

P.O. No.	Terms	Due Date	Project
Email	Net 30	9/15/2010	10-0677-002 Lighting Design

Description	Est Amt	Prior %	Prior Amt	Curr %	Class	Amount
Additional Services Lighting Design	360.00			0.00%	York	0.00

Payments/Credits	$0.00
Total This Invoice	$360.00

Phone #	Fax #		
717.854.7374	717.854.5533	**Job Total Balance - Less Payments/Credits**	**$360.00**

VRI

Series	Lamps[1]	Lamp type	Diffuser	Voltage	
VRI Rough Service wet location industrial	1	32 32W T8 (48")	(blank) **High-impact acrylic**	120	ELDW E 3
	2	28 28W T5[3]	DP Deep high-impact acrylic[4]	277	EL5DW E 5
	3[2]	54 54W T5HO	PCL Polycarbonate[5]	347	EL6DW E 6
				MVOLT[6]	EL14DW E 1
					GEB E
					GEB10IS E i
					GEB10RS E s
					GLR I
					GMF I
					RIF1 R fi
					CSA L C
					NOM L M
					WLF W i

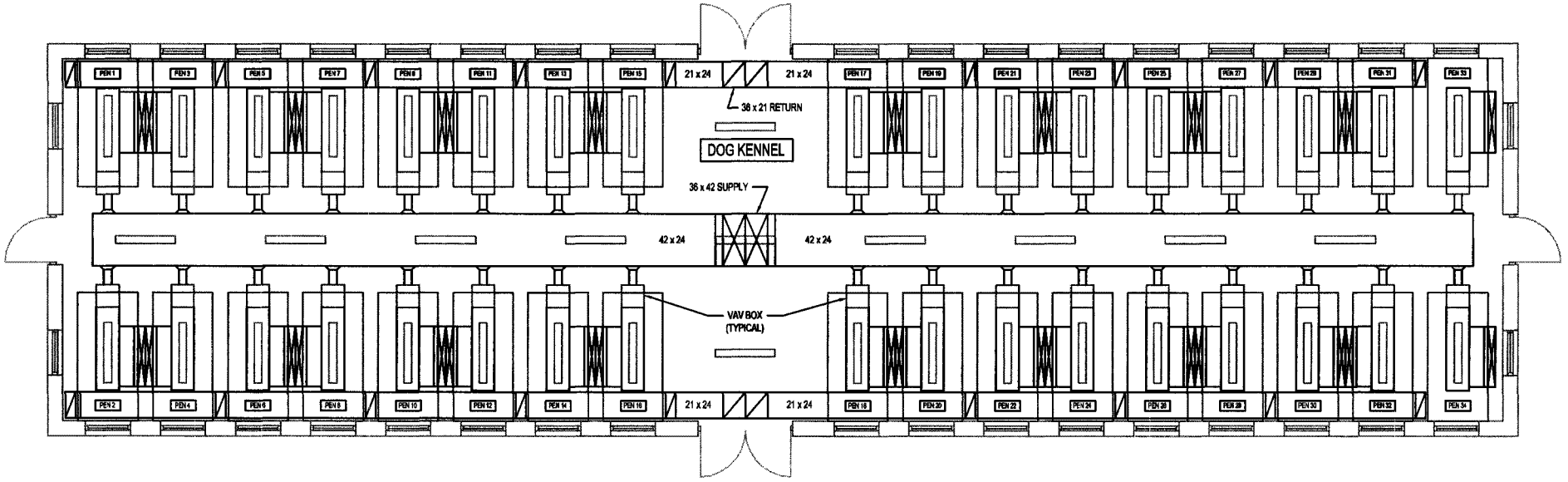
For tandem double-length unit, add prefix T. Example: TVRI

NOTES:

1 Lamps not included.
2 T8 only.
3 Two-lamp only.
4 Deep lens is standard on 8' fixtures.
5 Standard depth lens available.
6 Electronic ballast 120-277V. Must specify GEB10IS.
7 Luminaires ordered with the **DW** option (Example: **EL5DW**) will bear the UL Emergency Lighting Equipment label for damp or wet locations, depending on the fixture. 900 lumens for T5HO.
8 Not available with MVOLT.

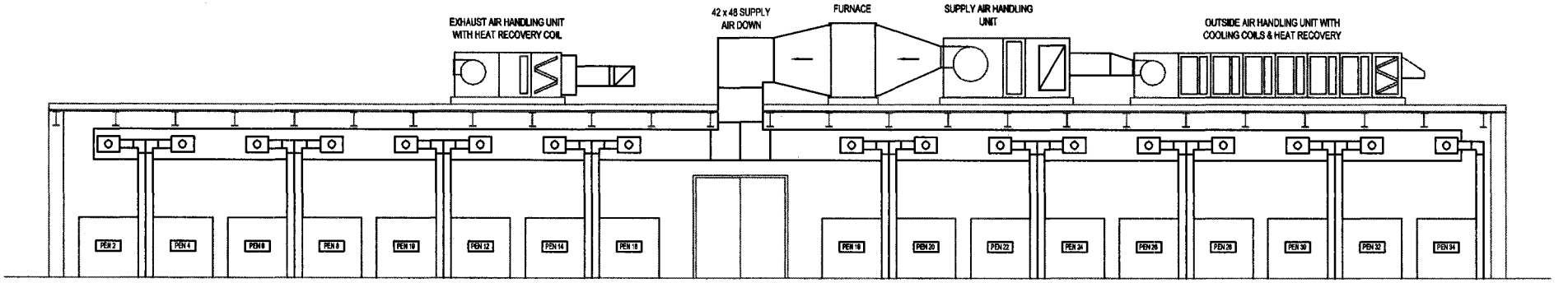
Order	
RK1T20BIT	Hex-ba resista
RK1T20DRV	Torx T resista
WLF	Wet lo

EXHIBIT D



FLOOR PLAN

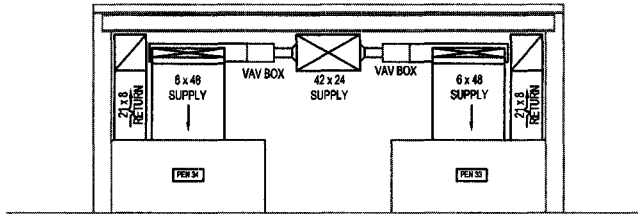
SCALE: 3/32" = 1'-0"



ELEVATION

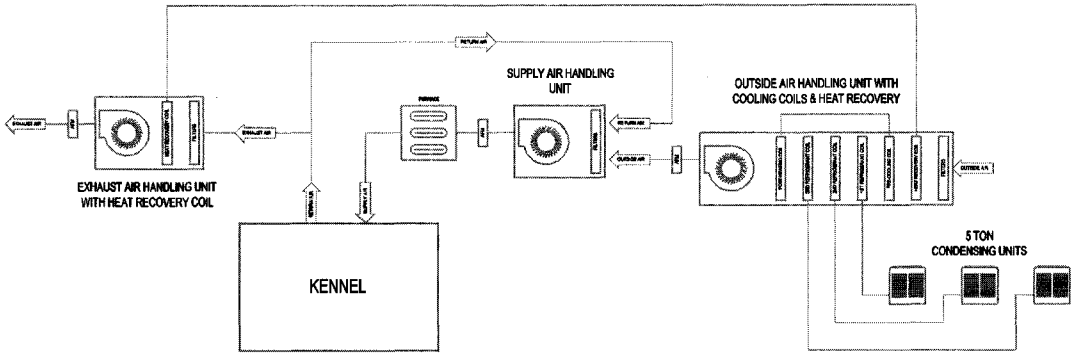
SCALE: 3/32" = 1'-0"

EXHIBIT D



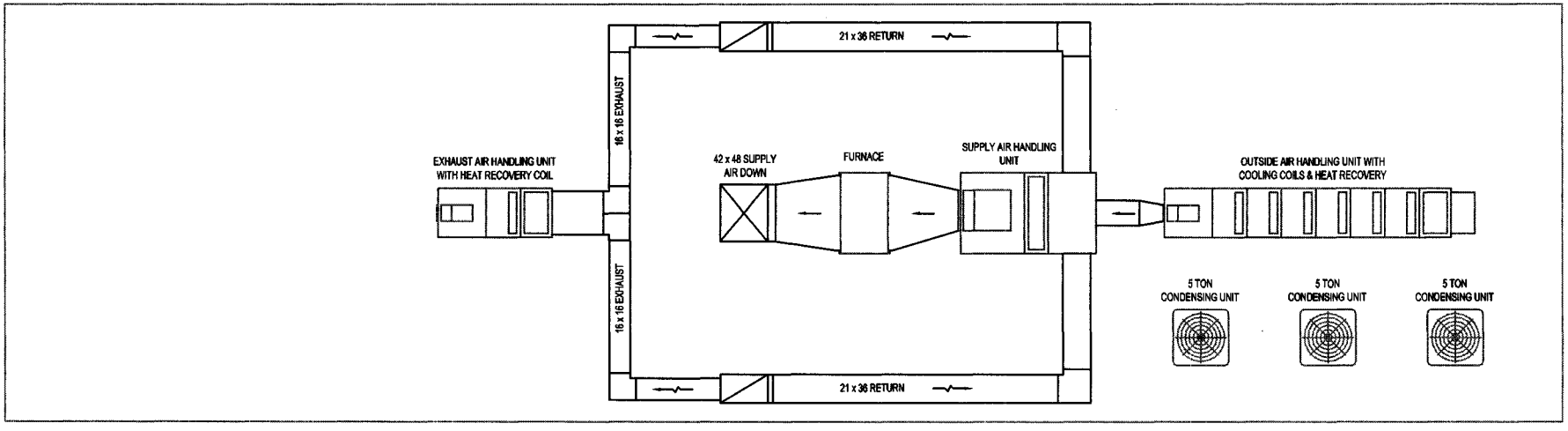
ELEVATION

SCALE: 3/32" = 1'-0"



SYSTEM DIAGRAM

NO SCALE



ROOF PLAN

SCALE: 3/32" = 1'-0"

Sequence of Operation

EXHIBIT D

1. Each pen is equipped with an adjustable digital display that indicates the number of dogs in that pen.
2. Ventilation air control
   A. The total number of dogs is registered by the global controller.
   B. The outside air and exhaust air units have air measuring station (AMS) that measure the outside and exhaust airflows.
   C. The controller modulates the outside and exhaust airflow setpoint to provide 30CFM for each dog in the kennel. Note the outside and exhaust airflows are the same to optimize heat recovery and maintain building pressure.
3. Pen airflow
   A. Each pen is equipped with a dedicated Variable Air Volume (VAV) box and associated controller.
   B. The number of dogs in the individual pen is transmitted to the VAV box controller.
   C. The VAV box airflow setpoint is adjusted to provide 100CFM of supply air for each dog in the pen.
4. Supply air system airflow
   A. The total number of dogs is registered by the air handling unit controller.
   B. The supply air handling unit has an AMS that measures the system airflow.
   C. The controller modulates the supply air system airflow setpoint to provide 100CFM for each dog in the kennel. Note: The outside air handling unit provides 30CFM and the supply air handling unit provides 100CFM for each dog in the kennel means the supply air contains 30% outside air.
5. Temperature control
   A. The supply air handling unit has a temperature sensor in the return air to measure space temperature.
   B. When space temperature is below 72°F the system is in the heating mode and when above 78°F in the cooling mode.
   C. When in heating mode the duct furnace fires and cycles to maintain space temperature.
   D. When in cooling mode the condensing units stage and cycle to maintain space temperature.
6. Humidity control
   A. The supply air handling unit has a humidity sensor in the return air to measure space humidity.
   B. When space humidity is above 60%RH the system is in the dehumidification mode.
   C. Outside air handling unit's condensing units stage and cycle to maintain space humidity.
   D. The outside air handling unit has pre & post heat recovery glycol coils. When in the dehumidification mode the associated pump runs and exchanging heat between the upstream and downstream coils to provide reheat and lower humidity.
   E. Duct furnace fires and cycles to maintain space temperature.
7. Heat recovery
   A. When outside air temperature is below 65°F or above 80°F the system is in the heat recovery mode.
   B. The exhaust air handling and outside air handling units have a glycol coils heat recovery coils.
   C. Glycol water is pumped between the two units to recover heat.

EXHIBIT E

From: Rodger C. Lease
Sent: Tuesday, August 10, 2010 2:03 PM
To: 'caninelaws@aol.com' ; 'Gerald Kreider'
Cc: 'Larry Modrynski'
Subject: Kennel Cost Estimates

The revised mechanical construction cost estimate is $70,000 plus $3,500 for the optional dampers and controls that would allow reduced ventilation rates when the kennel is not full.

The electrical construction cost estimate is approximately $18,000

Paragon Engineering Services, Inc.
Mechanical - Electrical - Plumbing

Top 50 Fastest Growing Companies & **Top 100 Best Places to Work in PA** by
Central Penn Business Journal's Top List for 2007

Rodger C. Lease, PE
Director of Mechanical Engineering
Corporate Office LEED® GOLD
2201 South Queen Street, York, PA 17402
Phone: 717.781.2264
Cell: 717.968.6535
Fax: 717.854.5533
Email: RLease@PEServices.org
Web: www.PEServices.org

EXHIBIT F

From: Larry Modrynski
Sent: Wednesday, August 11, 2010 10:27 AM
To: Jerry Kreider (kreider@earthlink.net)
Cc: Paul Schenk
Subject: Breeding Kennels

Jerry,
The $92,000 number Rodger Lease shared with you for renovating an existing breeding kennel was based upon an Owner dealing directly with Subcontractors doing the work.
Morton Buildings, Inc. expertise lies in new construction. We design, estimate, manufacture, deliver, construct and manage our projects from start to finish. Our company could be utilized for renovation work but it is not our expertise. To have Morton Buildings, Inc. as your General Contractor on these renovations our company would require our subs to provide Insurance Certificates, have a safety plan in place and provide us with Performance and Payment Bonds. This will add a couple percent to the subcontractors original bid. We would include On-Site Construction Management, In-House Project Management, Profit and Overhead. This would increase the total amount to $126,000 +/- depending on locality and existing building condition/obstructions.
Thanks,
Larry

Larry Modrynski
Project Manager
Morton Buildings, Inc.
3370 York Road
Gettysburg, PA 17325
Tel: 717-624-8000 Ext. 15
Fax: 717-624-7684

http://www.mortonbuildings.com

Rufus Brubaker Refrigeration, LLC
1048 North Penryn Road
Manheim, PA 17545-8516

(717) 665-3525 • fax (717) 664-4136
toll free 1-866-665-3525 • rbr@rbrubaker.com

EXHIBIT G

July 13, 2010

P D B A C
170 W BRUBAKER VALLEY RD
LITITZ PA 17543

Quotation N14-279W
Page 1

Attention Bob Yarnell:

We are pleased to quote you providing a HVAC system for your kennel design. The The Kennel will be built with the following requirements:

- 1,500 square feet with 8' high ceilings
- Walls insulated to an R-value of 19 or higher
- Ceiling insulated to an R-value of 30 or better
- Up to 100 dogs in Kennel with an average weight of 15lbs.
- 34 primary enclosures for dogs
- Up to 2 people in Kennel
- 100 cfm of air flow per dog for a total of 10,000 cfm
- 3,000 cfm of fresh air entering continually
- Temperature is not to go below 50°F or above 85°F
- Relative humidity will be 30% to 70% when temperature is between 50°F and 85°F
- All mechanical air movement will be filtered for particles with a MERV 8 or better filter

HVAC system will be built to the following specifications:

- Energy recovery ventilator sized to give 3,000 cubic feet of air per minute
  - Ventilator will exchange 70% of heat being exhausted and will exchange some humidity also
- One 4-ton single-phase outdoor condensing units will cool the incoming air.
- Two 5 ton cooling systems with reheat built in to cool or dehumidify kennel
- Two 95% LP gas furnaces to heat kennel.
- Conditioned air will be distributed thru metal ductwork system.
- Each pen will have an individually speed controllable fan to adjust the air flow into the individual pen. Each pen will have an individual diffuser and return vent
- There will be one common return/exhaust directly adjacent to the ERV
- There will be a common mixing room at the end of the kennel where air will be conditioned and monitored
- To keep relative humidity above 30% during heating season, we will install 4 commercial humidifiers. .

Rufus Brubaker Refrigeration, LLC
1048 North Penryn Road
Manheim, PA 17545-8516

(717) 665-3525 • fax (717) 664-4136
toll free 1-866-665-3525 • rbr@rbrubaker.com

EXHIBIT G

July 13, 2010

Quotation N14-279W
Page2

Base Bid: *(price includes all freight and Pa use taxes)*
Our installed price for the HVAC system is: $ 110,326.

Accepted by: _____ Date: / /

Customer to Supply:
Correct fused current with disconnect to equip
Method for condensate removal
Any permits or engineered drawings
Temperature alarms & monitoring
Level concrete base for outdoor units
Level floor free of obstructions
Building must support weight of air handlers
Removal of walls
Sealing of all roof penetrations
Bumper posts for equipment
LP or Natural gas supply to building
Water treatment
Soft water supply to humidifiers
Drains for humidifiers

Warranties:
Factory warranty
12-month Brubaker workmanship
1-year compressor warranty

Terms of Payment:
30% down upon acceptance
Work progressive
15 days following start up

Thank you,
Jim Nolt
Project Manager

EXHIBIT H

Commercial Kennel HVAC System Construction Cost Estimate

Equipment	Specification	Item		Cost	
		Quantity	Unit	Each	Total
Air Handling Units	Sub Total $ 127,500				
Outside Air Unit	3,000 CFM w/ total capacity of 17.5 Tons	1	ea	$ 65,000	$ 65,000
Mixing Box	w/ 8SF of MERV 8 filters				
Heat Recovery Coil	7.5SF coil - 8 row w/ access door				
Pre-Cooling Coil	7.5SF coil - 8 row w/ access door				
Refrigeration Coil	7.5SF coil - 4 row w/ access door				
5 Ton Condensing Unit	220 volt single phase	3	ea	$ 7,500	$ 22,500
Post-Reheat Coil	7.5SF coil - 8 row w/ access door				
Fan Section	3" Static Pressure w/ 2.5 HP motor				
Supply Air Unit	10,000CFM	1	ea	$ 25,000	$ 25,000
Filter Section	w/ 25SF of MERV 8 filters				
Fan Section	3" Static Pressure w/ 7.5 HP motor				
Duct Furnace	165MBH Gas, Propane or #2 Fuel Oil	1	ea	$ 5,000	$ 5,000
Exhaust Air Handling Unit	3,000 CFM	1	ea	$ 10,000	$ 10,000
Filter Section	w/ 8SF of MERV 8 filters				
Heat Recovery Coil	7.5SF coil - 8 row w/ access door				
Fan Section	2" Static Pressure w/ 2 HP motor				
Air Distribution System	Sub Total $ 109,998				
Roof Top					
Ductwork					
Outside Air	5 ft 18 x 18 @ 1.5 Lb/SF	45	Lb	$ 7.50	$ 338
Supply Ductwork	20 ft 42 x 48 @ 1.5 Lb/SF	450	Lb	$ 7.50	$ 3,375
Return Ductwork	70 ft 21 x 36 @ 1.5 Lb/SF	997.5	Lb	$ 7.50	$ 7,481
Exhaust Ductwork	50 ft 16 x 16 @ 1.5 Lb/SF	400	Lb	$ 7.50	$ 3,000
Insulation	2" thick closed cell UV weather rated				
Outside Air		30	SF	$ 10.00	$ 300
Supply		300	SF	$ 10.00	$ 3,000
Return		665	SF	$ 10.00	$ 6,650
Exhaust		267	SF	$ 10.00	$ 2,667
Space					
Supply Ductwork					
	100 ft 42 x 24 @ 1.5 Lb/SF	1650	Lb	$ 7.50	$ 12,375
	200 ft 18 x 12 @ 1.5 Lb/SF	1500	Lb	$ 7.50	$ 11,250
	200 ft 48 x 6 @ 1.5 Lb/SF	2700	Lb	$ 7.50	$ 20,250
Return Ductwork					
	200 ft 21 x 24 @ 1.5 Lb/SF	2250	Lb	$ 7.50	$ 16,875
	100 ft 21 x 8 @ 1.5 Lb/SF	725	Lb	$ 7.50	$ 5,438
VAV Boxes	12" inlet / 1,600CFM	34	ea	$ 500.00	$ 17,000
Controls	Sub Total $ 100,500				
Airflow Measuring Stations	Volue Probe fan inlet with transmitter	3	ea	$ 5,000	$ 15,000
VAV Box Controllers		34	ea	$ 750.00	$ 25,500
Interface Displays		34	ea	$ 250.00	$ 8,500
AHU Controllers		3	ea	$ 2,500	$ 7,500
Global Controller	Tritium web based interface	1	ea	$ 3,500	$ 3,500
Front End PC	Niagara license w/ M&V programming alarm	1	ea	$ 5,500	$ 5,500
Programming		1	ea	$ 25,000	$ 25,000
Mis Devices		1	ea	$ 10,000	$ 10,000
Electrical	Sub Total $ 43,800				
Panel	400 amp 220 volt single phase	1	ea	$ 7,500	$ 7,500
Power Wiring					
Air Handling Units		3	ea	$ 1,500	$ 4,500
VSDs		3	ea	$ 2,500	$ 7,500
Condensing Units		3	ea	$ 2,000	$ 6,000
Furnace		1	ea	$ 1,000	$ 1,000
VAV Boxes		34	ea	$ 350	$ 11,900
Lighting		45	ea	$ 120	$ 5,400
Piping					
Fuel		250	Ft	$ 18	$ 4,500
General Contracting	Sub Total $ 22,000				
Pen Construction	Perforated Plexiglas supply & return plenum	34	ea	$ 500	$ 17,000
Roof Curbs, Supports & Penetrations		1	ea	$ 5,000	$ 5,000
Total					
Sub Total					$ 408,298
25 % Contingency					$ 102,074
Total					**$ 510,372**

EXHIBIT I

PENNSTATE

Department of Dairy and Animal Science

College of Agricultural Sciences
The Pennsylvania State University
324 William L. Henning Building
University Park, PA 16802-3503

(814) 865-1362
Fax: (814) 863-6042

August 16, 2010

Bob Yarnall, Jr., President
American Canine Association, Inc.

Dear Mr. Yarnall:

I am writing in response to your concerns regarding the Pennsylvania Department of Agriculture Dog Law Enforcement Bureau's Final Form regulations of licensed commercial kennels. There are several issues that you bring to my attention, which I will address briefly. In addition, you have made me aware of the Independent Regulatory Review Commission's (IRRC) document No. 2785 in which IRRC addresses comments to the proposed changes in regulations. My name is cited throughout that document and implies that many of the comments from my letter to the Canine Health Board (dated October 27, 2009) and were considered and incorporated into the final form regulations. I have not had an opportunity to read the entire regulation in detail, but I can say that there are examples that my comments were clearly not followed, even though the document No. 2785 indicates otherwise.

My responses to your concerns described in your email to me dated August 4, 2010 follow:

1. Each canine must be in the air stream flow in its primary enclosure. When indoor temperatures are between 50 and 85 degrees Fahrenheit, a minimum of 100 cubic feet per minute (CFM) must pass over each canine in their primary enclosure. Of the 100 CFM, 30 CFM must be fresh outside air. This translates to a minimum of 15 complete outside air exchanges per hour. If the indoor temperature rises above 85 degrees Fahrenheit, the minimum air stream flow must by 200 CFM per canine in their primary enclosure. Of the 200 CFM, 60 CFM must be fresh outside air. This translates to a minimum of 30 complete outside air exchanges an hour. It is your opinion that these minimum air exchange safety regulation become the standard for Pennsylvania's animal breeding facilities?

Response: Document 2785 states that the regulations now include CFM requirements, rather that air exchange requirements consistent with my comments. I did suggest implementing CFM requirements, but I do not agree with the final regulations. A minimum of 100 CFM passing over each canine in the primary enclosure would, in my opinion, jeopardize the health and wellbeing of dogs, particularly if the dogs are less than 50 pounds and if temperatures are below 70 degrees. I had provided a suggested using the table on the following page as a guide for determining recommended ventilation rates.

Recommended ventilation rates for dogs, cfm/animal (Example)

Body Wt, lb	*Cold Weather*	*Warm Weather*	*Hot Weather*
5-10	*4*	*8*	*15*
11-25	*5*	*20*	*30*
26-50	*6*	*30*	*50*
51-100	*8*	*35*	*75*
> 100	*10*	*50*	*100*

Furthermore, IRRC states in document 2785 states that individuals (including myself) commented that the dogs could be made to feel cooler by increasing ventilation rate when temperatures exceed 85° F. IRRC further states that "cattle, equine, and swine cool internal body temperatures by perspiring." Compared to humans and horses, cattle and swine release very little moisture on the skin and cannot be categorized as animals that perspire. Yet, these animals are often housed in facilities that have no supplemental cooling (i.e. air conditioning). Admittedly, many facilities have misters but there are also many that do not. The primary method for providing cooling is the movement of air.

2. The Department of Agriculture's Final Form regulations require that all of the air stream flow over each animal's primary enclosure be filtered by an 8 MERV or higher rated filter. 100 canines times 100 CFM equals 10,000 CFM. The example kennel is 12,000 cubic feet. This translates to 100% of the animal breeding facility's air must filtered ever 72 seconds when temperatures are between 50 and 85 degrees Fahrenheit and, if the indoor temperature rises above 85 degrees Fahrenheit, 100% of the animal breeding facility's air must filtered every 36 seconds. Is it your opinion that this should be the Department of Agriculture's minimum air filtration safety regulation required for Pennsylvania's animal breeding facilities?

   Response: If air is re-circulated I do support the use of filtration (as noted in my comments from October 27, 2009) because re-circulating systems tend to increase airborne dust. However, I do not support the use of ventilation systems that re-circulate air. These systems were used about 20 years ago in the swine industry but were quickly abandoned because of an increased incidence in respiratory illness.

3. The Department of Agriculture's Final Form regulations require that for each additional canine placed in the primary enclosure that 100 CFM be added to the air flow stream. To prevent over-spray and splashing of water, primary enclosures have solid walls between enclosures. Engineering firms have advised us that extensive HVAC duct networks and variable speed air flow adjusters will

need to be installed to certify that each canine has the required air stream flow minimum requirements. A maximum of six canines (12 weeks or older) may be placed in a single primary enclosure. It is necessary for animal breeding facilities to move breeding stock into different primary enclosures throughout the year due to breeding, gestational, whelping (giving birth), and socialization reasons. In your opinion, should this be the Department of Agriculture's new minimum air flow requirement and become the new standard for Pennsylvania's animal breeding facilities?

Response: I do not believe this should be the Department's new minimum air flow requirement. See the table above.

4. A canine mother will continually lick her puppies upon birth and during the first several days to stimulate them to urinate and defecate. Several veterinarians have advised us that puppies cannot generate enough body heat by themselves to survive for the first several days. Infra red heat lamps and heating pads are used to keep the young pups at an average of 94 degrees Fahrenheit. The Department of Agriculture's Final Form regulations make this husbandy practice illegal and require that the primary air flow be at 100 CFM. In your opinion, what affect would these minimum air flow requirement have on a new born puppy when the temperature is between 50 and 85 degrees Fahrenheit and wanders away from the mother in the primary enclosure?

   Response: I would anticipate that the puppy's effective temperature will fall below the thermal neutral zone under these new guidelines.

5. Many large breed canines whelp 10 to 15 pups in a litter. The Department of Agriculture's Final Form regulations require that the primary air flow be at 100 CFM before she whelps and to increase proportionally by 100 CFM as each puppy is born. The primary enclosure's air flow stream would increase from 100 CFM to 1,500 CFM when temperatures are between 50 and 85 degrees Fahrenheit and to 3,000 CFM if the indoor temperature rises above 85 degrees Fahrenheit. In your opinion, what affect would these minimum air flow requirement have on all of the new born puppies in animal breeding facilities?

   Response: These proposed air flow requirements would, in my opinion, actually decrease the welfare of the dogs as I have described above.

6. Kennels use a veterinarian approved mixture of water and disinfectant pressurized wash down systems to clean primary enclosures. Multiple cleaning of primary enclosures is preformed daily. The Department of Agriculture's Final Form regulations require that "at no time" shall the Heat Index be above 90. A 90 Heat

Index is reached when the temperature is 80.8 degrees Fahrenheit and the relative humidity equals 100%. During the cleaning process and especially on rainy days coupled with the high level of air exchanges, the relative humidity will be at 100% at multiple times during a 24-hour cycle. The Department stated in their Final Form regulations that the animal's life is in imminent danger if the Heat Index is above 90. The Department will be installing air quality monitoring devices that store a minimum six months of continuous air sampling data. Data will then be downloaded from the monitoring device to determine if the animal breeding facility had at any time been in violation of the Department's new Final Form regulations. In your option, is an animal's health adversely affected when exposed to any Heat Index rating above 90?

Response: I'm not qualified to predict with accuracy how the heat index will change during wash down.

7. The Department of Agriculture's Final Form regulations require that if the indoor temperature of the animal breeding facility rises above 85 degrees Fahrenheit, the facility must lower the facility to 85 Heat Index or lower. As stated earlier, during cleaning and on rainy days the Heat Index is reached when the temperature is 79.5 degrees Fahrenheit and the relative humidity equals 100%. In your option, should animal breeding facilities be required to have this additional 85 Heat Index regulation?

   Response: See my response to #1.

8. Department of Agriculture's Final Form regulations require that all areas of the animal breeding facility that may have an animal present must be 40 to 60 foot candles of full spectrum light, diurnal light. In your option, should animal breeding facilities be required to have this regulation?

   Response: In my comments from October 27, 2009, I stated: "...according the Penn State's Office of Physical Plant classrooms are required to have 50 foot candles. Do dogs really need more light than this? If we provide less than 50 foot candles for the dogs, how will their health or welfare be affected?" I was trying to make the point that dogs do not need the same amount of light that Penn State requires in the classroom. Yet in document 2785, IRRC implies that I was recommending this amount of light.

I hope you find these comments useful.

Respectfully,

Kenneth B. Kephart
Professor of Animal Science

Rufus Brubaker Refrigeration, LLC
1048 North Penryn Road
Manheim, PA 17545-8516

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EXHIBIT J

July 26, 2010

P D B A C
170 W BRUBAKER VALLEY RD
LITITZ PA 17543

Energy Estimate for Kennel

Attention Bob Yarnell,

This is the approximate Annual energy and operational costs to operate the Kennel HVAC systems.

Heating Cost for Liquid Propane at $ 2.25 per gallon is:	$ 5,000.
Electrical Cost for equipment at $ 0.15 per KW is:	$ 48,600.
Cost for filters changed once a month is:	$ 4,200.
Cost for mechanical maintenance is: (no major repairs, will increase with age of system)	$ 1,500.
Total Estimated Annual Operational Cost is:	$ 79,700.

Thank you,
Jim Nolt
Project Manager.

PROGRESSIVE ENGINEERING & DESIGN, INC.

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EXHIBIT K

August 18, 2010

Bob Yarnall, Jr.
American Canine Association, Inc.
P.O. Box 121107,
Clermont, FL 34712

RE: Commercial Kennel Canine Health Regulation
HVAC System Evaluation

Dear Bob,

Progressive Engineering & Design, Inc. (Progressive) is pleased to submit the following findings of our investigation regarding sizing, selecting, schematic design, cost estimating and evaluation of an HVAC system serving dog kennels compliant with Pennsylvania's Commercial Kennel Canine Health Regulation 7 PA Code, Chapter 28a.

Findings

1. The requirements established by Chapter 28a are more stringent than apply to any type of human medical facility in terms of ventilation and air change rate.
2. Meeting the variability of these requirements in terms of the required airflow per dog requires a robust control system, again not found in any facility including operating rooms.
3. The table at right summaries the airflows in terms of CFM/SF and air change rates. The most illustrative of these numbers is the supply air 30 air changes per hour. For example operating rooms typically have an air change rate between 20 and 25 and a class 100 clean room has an air change rate of 60. Needless to say such a system is expensive to construct, control and operate.
4. Our investigation suggests in addition the cost of constructing the building the cost of meeting the regulations will be $510,000 and $21,000 a year to operate (depending on the type and cost of fuel). The table for the following page lists these costs.

Data Summary			
Building Information			
Legnth	Width	Area	Volume
100	25	2500	20000
Canine Data			
Addults	Puppies	Total	Max D/P
34	66	100	16
Airflow			
OA/Dog	Airflow/D	Outside Air	Supply Air
30	100	3000	10000
Airflow Data			
Outside Air		Supply Air	
CFM/SF	AC/Hr	CFM/SF	AC/Hr
1.2	9	4	30

5. The tables at right list the cost of heating and air-conditioning the kennel – depending on the type and cost of the fuel our calculations suggest the HVAC system will cost from $18,000 to $21,000 a year to operate. It must be remembered the system we are recommending has energy recovery built in therefore these numbers are as low as reasonably possible. Note the largest expense is the electricity needed to operate the fans.

Cooling Energy & Cost						
Air-Conditioning			Fan Energy			
Ton Hrs/Yr	kW/Ton	kW/Yr	Total HP	kWH/Yr	$/kW	$/Yr
17600	1.25	22000	12	78630	0.15	$ 15,094

Heating Energy & Cost						
MBH/Yr	Natural Gas			Propane		
	$/CCF	MBH/$	$/Yr	$/Gal	MBH/$	$/Yr
198000	$ 11.00	90.9	$ 2,562	$ 2.50	36.8	$ 6,330

6. Attached to this report is a cost estimate that itemizes the various components used to meet the design criteria established by the subject regulation. The estimate includes a 25% contingency for a total of $510,000.

Conclusion

Progressive is committed to providing quality engineering services and we hope the information in this report is useful in your decision making process. If there are any questions please feel free to call.

Thank you,

Gil Schonour

Gil Schonour, P.E. President
Progressive Engineering & Design, Inc.