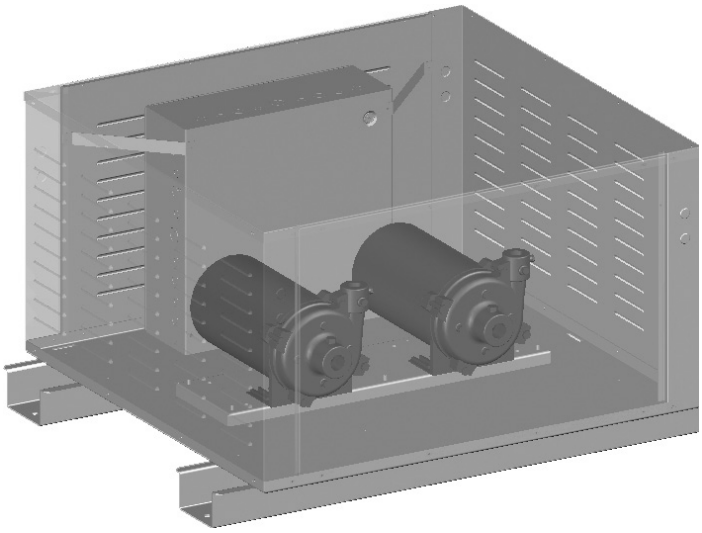
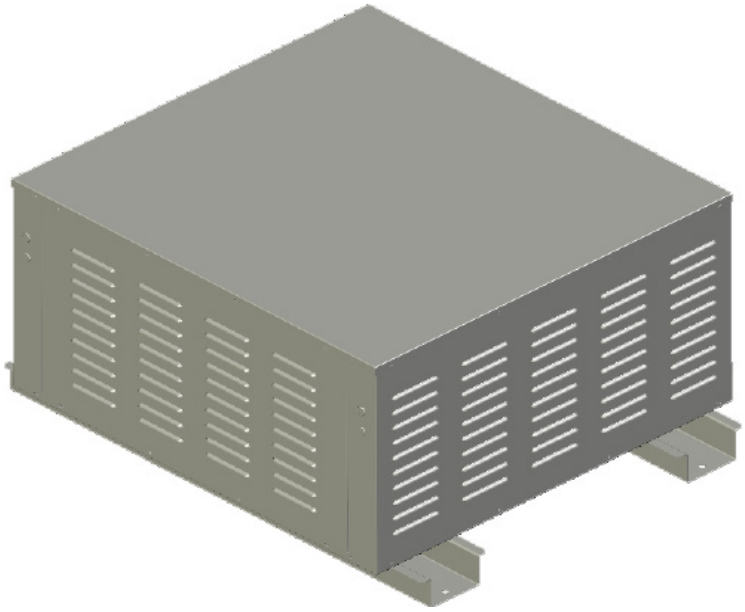
AboveAir™ Technologies

PumpAll™ Installation, Operations, & Maintenance Manual

Glycol Pump Packages

Ver 1.5 / April 13, 2016





ABOVEAIR TECHNOLOGIES

4. STANDARD 1 YEAR LIMITED PARTS WARRANTY

4.1 Unless a different Limited Warranty is provided by AAT in the Transaction Documents, the express provisions of all warranties of every nature and every kind for and with respect to the Goods and/or the Transaction shall be limited to the Limited Warranty set forth in this Section 4. AAT warrants to the original Buyer (and any assignee approved by AAT in writing prior to the assignment thereof) against defects in materials and/or workmanship with respect to the Goods (collectively a "Defect") for a period of twelve (12) months from the date of shipment from AAT's facility; PROVIDED, HOWEVER, in the event Buyer obtains a successful start-up of the Goods and provides documentation thereof evidenced by AAT's receipt of fully-completed, factory-formatted, start-up documentation (which must be received from Buyer within ninety (90) days from the shipment date, time being of the essence), then the twelve (12)-month Limited Warranty set forth above shall be extended for an additional ninety (90)-day period, and the Limited Warranty provided hereunder will continue for a total of fifteen (15) months following the date of shipment as aforesaid. Buyer's sole and exclusive remedy under this Limited Warranty shall be limited to either the repair or exchange of the warranted products (FOB AAT's factory), at AAT's option. As a material and integral term of this Limited Warranty, no attempt to repair and/or improve the Goods and/or any parts or components thereof by any of AAT's representatives shall change or extend this Limited Warranty.

4.2 NOTWITHSTANDING ANYTHING IN THIS LIMITED WARRANTY AND/OR THESE TERMS AND CONDITIONS TO THE CONTRARY, IT IS UNDERSTOOD AND AGREED THAT THE AGREEMENTS, WARRANTIES, REPRESENTATIONS AND COVENANTS OF AAT HEREUNDER REPRESENT "A LIMITED WARRANTY", AND THEREFORE, AAT'S OBLIGATIONS TO CORRECT AND/OR REPAIR ANY DEFECT ARE LIMITED TO THE TERMS AND CONDITIONS HEREOF. EXCEPT AS SET FORTH HEREIN, IT IS UNDERSTOOD AND AGREED THAT THE PHYSICAL CONDITION OF THE GOODS ARE BEING CONVEYED PURSUANT TO THE P.O. IN "AS IS" CONDITION. THE FOREGOING WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BUYER ACCEPTS THE LIMITED WARRANTY AS THE SOLE WARRANTY GIVEN BY AAT TO BUYER WITH RESPECT TO THE GOODS. THE SALES AGENTS, EMPLOYEES AND/OR INDEPENDENT CONTRACTORS OF AAT ARE NOT AUTHORIZED TO MODIFY THIS LIMITED WARRANTY OR GIVE ADDITIONAL WARRANTIES BINDING ON AAT. ACCORDINGLY, STATEMENTS MADE IN ADVERTISING OR OTHER PRESENTATIONS OR COMMUNICATIONS, WHETHER ORAL OR WRITTEN, DO NOT CONSTITUTE WARRANTIES BY AAT AND ARE NOT RELIED UPON BY BUYER. UNLESS OTHERWISE PROHIBITED BY APPLICABLE LAW, IN NO EVENT SHALL AAT, IN ANY CASE, BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT OR OTHER SIMILAR DAMAGES CREATED BY, ARISING OUT OF, OR RESULTING FROM BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR ANY OTHER LEGAL THEORY, EVEN IF AAT OR AAT'S AGENT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL AAT'S AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THE P.O. AND THESE TERMS AND CONDITIONS, WHETHER ARISING OUT OF OR RELATED TO BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, EXCEED THE TOTAL OF THE AMOUNTS PAID TO AAT FOR THE GOODS SOLD HEREUNDER.

4.3 Notwithstanding anything in the Transaction Documents to the contrary and as a material and integral term of the Transaction, Buyer expressly agrees that AAT shall not be liable for any indirect, consequential, exemplary, special, incidental or punitive damages, including, without limitation, loss of use, loss of business, revenue, profit or goodwill, downtime costs, damage to associated equipment, cost of substitute goods, facilities or services, or claims of Buyer's customers for such damages, or other commercial or economic damages or costs, that may arise out of, in conjunction with or relate to, the failure of any Goods sold by AAT to Buyer, under any legal theory or cause of action, including, without limitation, tort, contract, warranty, strict liability or federal, state or local statute, ordinance or regulation. In no event shall AAT's liability exceed the Price of the Goods which give rise to the claim. Buyer agrees that if it transfers title to or leases the Goods to any third-party buyer shall obtain such buyer's agreement to the limitations set forth herein. If the Buyer or its agents grants to an end user any warranty which is greater in scope or time period than the Limited Warranty stated herein, AAT shall not be liable beyond the Limited Warranty set forth herein and Buyer shall indemnify and hold AAT harmless with respect thereto.

4.4 No Goods or any portion thereof shall be returned without prior authorization from AAT. Buyer shall prepay all transportation charges for the return of such Goods or any portion thereof to AAT's factory or authorized factory service center. AAT will not accept any charges for labor and/or parts incidental to the removal and remounting of any Goods repaired or replaced under this Limited Warranty. All repair and replacement parts provided under this Limited Warranty will assume the identity, for Limited Warranty purposes, of the part replaced and the Limited Warranty on such replacement parts will expire when the Limited Warranty on the original part would have expired. Claims must be submitted within thirty (30) days of failure or be subject to rejection. This Limited Warranty is not transferable by Buyer unless approved in writing by AAT prior to the assignment or transfer thereof.

4.5 The Limited Warranty set forth above does not cover conditions over which AAT has no control, and therefore, a Defect for purposes hereof shall not include: (i) contamination; (ii) Goods damaged or subjected to excess voltage; (iii) Goods exposed to temperatures, venting requirements and/or flow rates outside of specified range; (iv) accidents, abuse, negligence, improper maintenance and/or misuse after shipment from AAT's factory; (v) Goods altered, disassembled or repaired by anyone other than AAT personnel or persons so designated in writing by AAT prior to the commencement of said work; (vi) damages due to deterioration during periods of storage by the Buyer prior to installation and operation; (vii) damage due to unsuitable fuels, power, selection to the wrong product settings; (viii) damage due to corrosion (including due to water quality, liquids utilized and air), mineral deposits, mold, fungus, abrasion or bacteria; (ix) ordinary wear and tear; (x) any damage caused to the Goods by any portion or component of any system that is not supplied by AAT, regardless of the cause of the failure of such portion or component; (xi) Goods on which payment to AAT is in default; or (xii) any other matter, activity and/or passage of time causing a Defect which are beyond the reasonable control of AAT. In addition, AAT shall not be liable for the acts of Buyer's employees, agents or contractors, nor shall AAT have any responsibility for the performance of Goods not installed in compliance with the installation manual. Whenever possible, each provision of the Limited Warranty shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Limited Warranty shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the minimum extent of such prohibition or invalidity without invalidating the remainder of such provision or the remaining provisions of this Limited Warranty.

Introduction

Thank you for your purchase of this AboveAir Technologies PumpAll™ pump package. AboveAir Technologies is an innovative Maryland based manufacturer of air conditioning systems. Specializing in precision, high percentage outside air, and supplemental applications, AboveAir Technologies utilizes high quality craftsmanship and materials to produce equipment capable of providing years of trouble free service.

This AboveAir Technologies manual is provided as one component of the documentation for your equipment. The product data sheet (submittal or as-built) and wiring diagram should be referenced for specific performance, technical, and physical data. Supplemental manuals for microprocessors, drycoolers, and other system components may be included with your documentation package depending on components purchased.

The information contained in this manual provides basic instructions for the installation, operation, and maintenance of your equipment. The directions contained herein will prevent damage to the system from an improper installation and ensure that your unit performs at its peak efficiency. Deviation from these instructions may result in degraded performance, damage to the system, and potentially void the system warranty.

Note: *The information contained in this manual in no way absolves the installer of their obligation to meet all applicable codes and comply with other project documentation. In the event of a conflict between these instructions and other project requirements, always observe the most strict requirement.*

Safety Information

This AboveAir Technologies unit presents multiple potential hazards, including high voltage electrical services, rotating components, and high pressure gasses and liquids. Only professionally trained, qualified, and (where required) licensed personnel should install and/or service this equipment. Property damage and serious injury or death may result from improper installation or maintenance of this equipment.

Prior to performing any service on this unit, familiarize yourself with this manual, the material safety data sheets (MSDS) for any glycol used in this unit, and the location of the main power switch. Before opening the cabinet to perform any service, always lock out the main power disconnect, unless power is required for the procedure/ diagnostic being performed.

Receiving & Inspection

To ensure that your equipment has been delivered without any external or internal indications of damage, immediately upon delivery make a visual inspection, including inside all access panels. If there is any shipping damage, it must be noted on the freight carrier's deliver forms before signing for the equipment. If the pump package has been damaged, obtain a claim form from the carrier. All freight claims and/or lost material claims must be processed through the freight carrier, typically within 5 business days of receipt of equipment. AboveAir Technologies should be notified of any damage prior to repair.

Components and accessories that are shipped loose will be shipped in separate container(s) and may be found within the unit as space allows. The pump package must remain in the normal upright position at all times and should only be moved by pallet jack or similar device on original or correctly sized pallet (pallet extends beyond the unit on all sides). Pump packages must never be stacked.

If the equipment is not scheduled for immediate installation upon its arrival at the job site, it should be completely inspected per the instructions above, then repacked in the original or equivalent packaging and stored in a clean, dry area.

Site Selection

Before the unit is installed, a thorough study of the installation site should be made to ensure that there is adequate space and structural support for the pump package. Careful consideration must be given to the location of system wiring, system piping, pipe supports, and piping specialties to ensure a successful installation.

Piping laid out to minimize total piping length and quantity of fittings will minimize pump power requirements.

Rigging

Pump packages are shipped on a skid in order to ease movement and are designed to be kept in the orientation in which they are shipped. This orientation must be maintained at all times during installation. AboveAir pump packages should only be moved by pallet jack or similar device. Refer to submittal documentation for weights.

Mounting

Pump Packages

Pump packages should be installed on a level housekeeping pad or suitable curbs as specified by a licensed

engineer. A minimum of 36" clearance space must be allowed at the front of the unit to all access for maintenance and servicing.

Expansion Tank & AirTrol Fitting
The expansion tank should be installed on the suction side of the pump system. The tank should be installed at the highest point in the system in conjunction with an air separator and the included AirTrol fitting. Install the AirTrol fitting in the bottom of the expansion tank per the manufacturer's installation instructions.

Flow Switch (If Applicable)
The flow switch should be installed in the common supply main and wired to the terminals indicated on the electrical wiring schematic.

Pressure Sensor (If Applicable)
The pressure sensor should be installed 2/3 of the way through the system in the system's supply main and wired to the terminals indicated on the eletrical wiring schematic.

System Piping & Specialties

All system piping and specialties, unless otherwise noted, are provided by the system installer. All piping materials and specialties must comply with Local code and project documents. Refer to pipe and piping specialties manufacturer's literature to ensure that materials are compatible with the glycol chemistry used in your system.

Refer to Figures 1a-c and 2 on pages 7 & 8 for suggested piping configurations to assist the designer in system layout; final piping layout should be designed and sized by an engineer for system flow rates and pressure drops. Refer to project documentation to additional requirements.

Electrical Connections

Power Connection
Pump packages are factory wired for the supply voltages indicated on your submittal. Typical wiring diagrams are shown in Figures 3-5 on pages 9 & 10. Refer to the wiring diagram included with your pump package for points of connection to your specific unit.

Wire & Fuse Sizing
Check the unit nameplate for the full load amps (FLA), minimum circuit ampacity (MCA), and maximum overcurrent protection (MOP). Select wire and fuse sizes in accordance with all applicable Local and National code requirements.

Low Voltage Control Wiring
The pump package may include connections for a pump enable signal, flow switch, pressure switch, alarm, and/or drycooler enable. Refer to the wiring diagram included with your pump package for points of connection for your specific equipment. Select sensor wiring in accordance with the documentation included with your sensor; all other control wiring should be sized in accordance Local and National code requirements for 24 VAC control wiring.

Microprocessor Control
Refer to the supplemental MC-5000 controller manual for additional features and options on systems equipped with microprocessor control and sample wiring diagrams.

Installation Check List

Item	Done
Proper clearance is available for pump service and access.	
Equipment is level.	
Piping is completed, leak checked, and charged with specified water or water/glycol mixture.	
All piping specialties are installed in accordance with project documentation.	
Power is connected to the pump package and matches the unit nameplate.	
Circuit breakers or fuses and system wiring matches system rating and meets all code requirements.	
Pump package is phased properly and grounded.	
Wiring connections are tight.	
Control wiring is complete, including all sensor installation(s).	

Maintenance Recommendations

Monthly

- Verify proper pump rotation - pumps rotate freely in the proper direction.
- Verify pump mounts are secure.
- Examine pumps for signs of leaks.
- Check for excessive noise during operation.
- Clean the strainer.
- Verify glycol/water level.
- Check air vents & expansion tank.
- Check system chemical concentration.

Semi-annually

- Complete monthly maintenance items.
- Test pump change-over operation (if applicable).
- Verify that all electrical connections are secure.
- Check pump amp draws.
- Examine all contactors for pitting.

Product Support

AboveAir Technologies is dedicated to supporting its product installations. If a problem arises that cannot be handled through following the directions in this manual or one of the supplemental manuals included with your unit, contact AboveAir at (301) 874-1130 Monday through Friday from 7:00 AM to 4:00 PM Eastern Standard Time.

So that we can provide prompt and accurate support, please have the following information available when you call:

- Your Name/Company/Phone Number
- Job Number (5 digits printed on the unit nameplate)
- Serial Number (8 digits prints on the unit nameplate)
- Model Number (printed on the unit nameplate)
- Date of Manufacture (printed on the unit nameplate)
- A brief description of the problem

If a problem occurs outside of the business hours, leave a message with the aforementioned information and one of our support staff will return your call as soon as possible.

Warranty Parts

All warranty inquiries are handled through technical support. After troubleshooting the unit with a qualified field service technician, a determination will be made as to whether a part(s) may be defective. If it is determined that a part may possible be defective through the troubleshooting process, a replacement part will be shipped to the address provided by the customer.

A purchase order is required for all warranty parts. The following information is required:

- Customer Contact Name
- Customer Billing Address
- Credit Card Authorization or Approved Credit
- Customer Shipping Address
- Customer Telephone Number
- Date of Order
- Unit Serial Number

A Return Material Authorization (RMA) number will be provided for the defective part(s). Clearly note the RMA number on the address label. The customer is responsible for the shipping cost to return the defective part(s) to the AboveAir Technologies factory. The defective part(s) must be returned within 30 days for evaluation by the service department. If the part is found to be defective after examination by the technical support team, a credit will be issued. Refer to the warranty certificate included in the Introduction section of this IOM manual for further details.

Spare and Replacement Parts

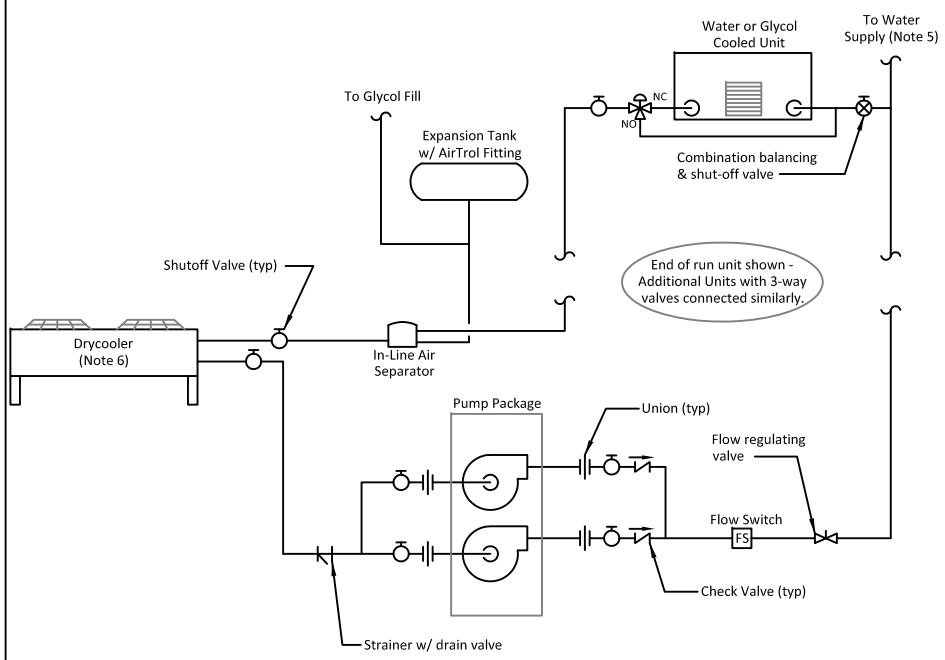
Requests for spare and replacement parts are made through the service department at AboveAir Technologies at (301) 874-1130. Quotes will be provided for the specified parts for a specific unit through your local manufacturer's representative. Visa and Mastercard or approved credit with AboveAir Technologies are acceptable forms of payment.

Any spare/replacement or replacement parts will be subject to a 25% restocking charge. If the part is not a regularly stocked item, a 50% restocking charge will be applied. In order to return a part, contact AboveAir Technologies at (301) 874-1130 for a Return Material Authorization (RMA) number. Parts are eligible for return for 30 days after the original purchase date and must be returned in their original packaging with all associated materials. Spare or replacement parts sales are not eligible for return after 30 days.

Troubleshooting Recommendations

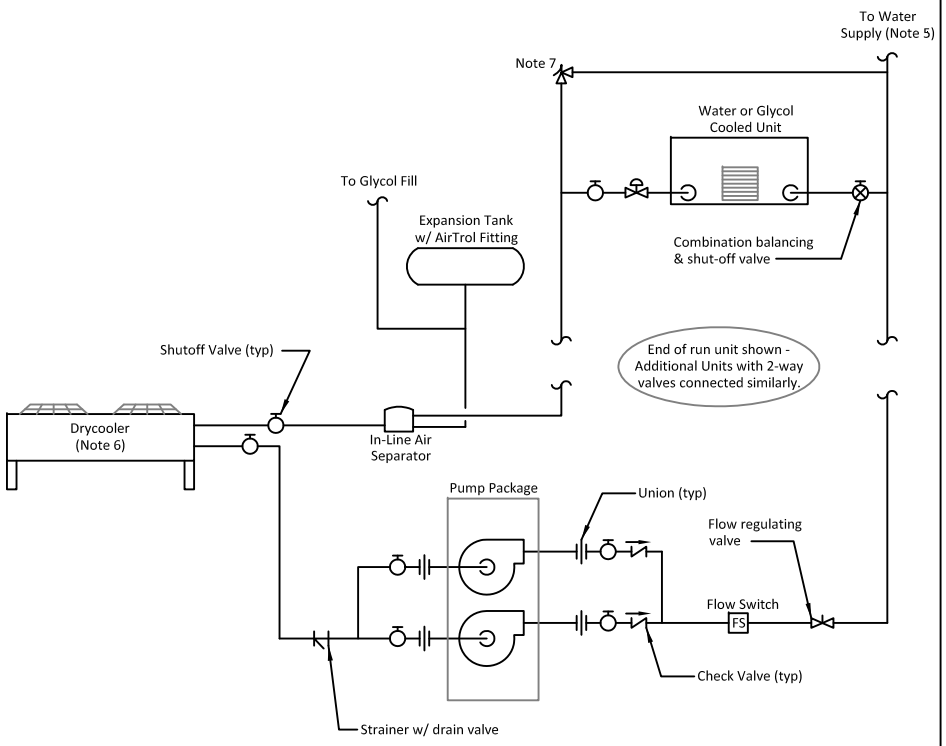
Symptom	Possible Causes	Corrective Actions/Tests
Unit will not start	Disconnect open	Close disconnect switch.
	No main power	Check system voltages.
	Blow fuse/circuit breaker tripped	Reset breaker or replace fuse.
	Control transformer circuit breaker tripped	Locate control wiring short and reset breaker.
	Overload protection tripped	Reset. Troubleshoot overload protection if issue occurs frequently.
	No pump enable signal	Verify 24 VAC signal to pump enable terminals is active.
	Pump package improperly wired	Verify pump package wiring matches wiring diagram.
Low system flow	Balancing or shut-off valve stuck or clogged	Open valve, clean, repair, or replace as necessary.
	Strainer clogged	Clean strainer.
	Loss of fluid	Check for leaks and repair. Refill system.
Overload protection tripping	Low or unbalanced voltage	Determine cause for power issues.
	Motor protector too small	Check pump amp draws and replace if necessary.
	Motor protector failed	Replace motor protector.
	Pump motor short	Repair motor.
Excessive noise during operation	Low discharge head	Check system balance.
	Debris lodged in impeller	Clean out impeller, verify strainer is installed and mesh is in place.
	Cavitation	Adjust system pressures.
	Worn motor bearings	Replace motor.
Poor system performance	System not balanced	Balance system.
	Bypass not installed	Install system in accordance with recommended piping diagrams.
	Worn impeller or seals	Replace impeller or seals as necessary.
	Worn motor bearings	Replace pump.
Excessive leakage at shaft during operation	Worn seal or packing	Replace seal or packing as necessary.

FIGURE 1A: CONSTANT VOLUME SYSTEMS
Preferred configuration



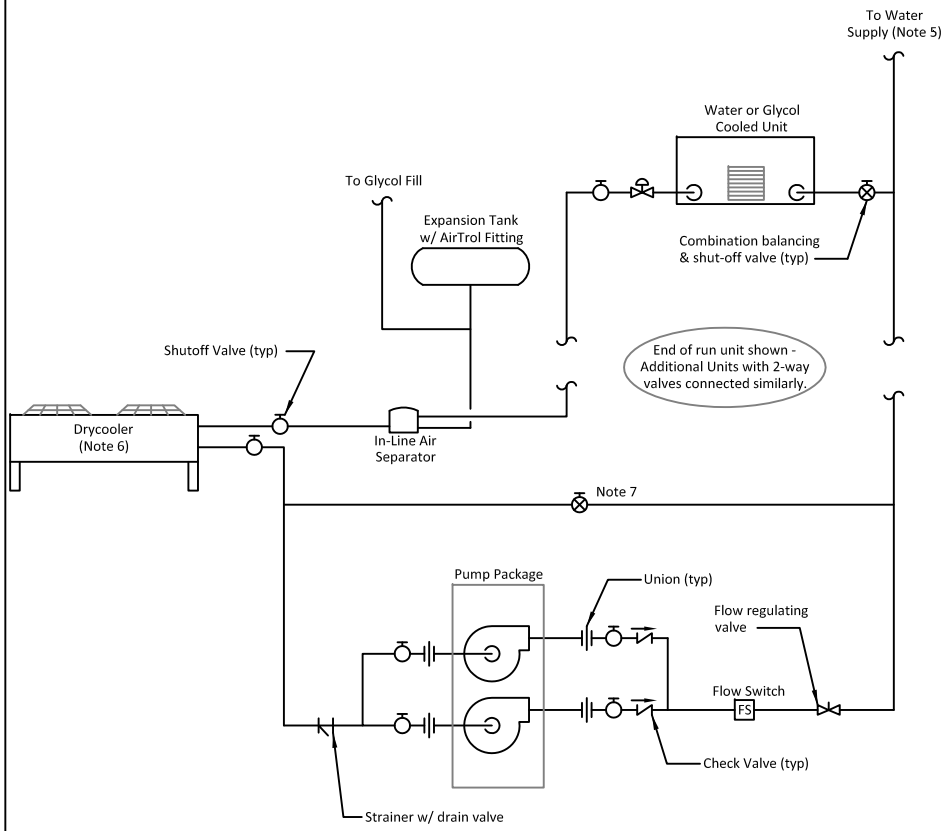
NOTES
1. AboveAir Technologies recommends that all piping systems be designed by a licensed engineer. This diagram depicts a suggested piping configuration for a constant volume pump package/dry cooler system. Systems may require additional balancing valves, drain valves, flow measuring devices, and other specialties as required by the engineer.
2. This diagram in no way is intended to absolve the contractor of their obligation to meet all applicable codes and the project documents. Refer to project documents and drycooler IOM manual for additional requirements.
3. If your pump package does not include a variable speed drive, then AboveAir recommends three-way valve operation on all condensing units, as shown here.
4. Piping specialties are field supplied except where specifically noted on project submittal.
5. Water supply must be isolated from potable system - refer to applicable code requirements.
6. Refer to drycooler manual for additional piping recommendations.

FIGURE 1B: CONSTANT VOLUME SYSTEMS
Alternate configuration 1



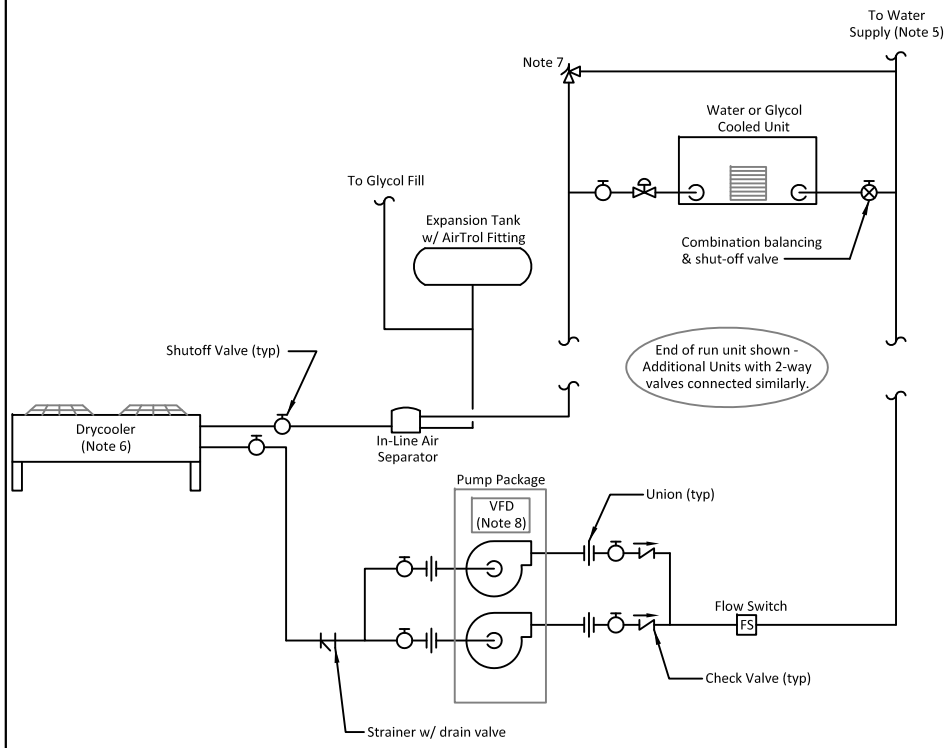
NOTES
1. AboveAir Technologies recommends that all piping systems be designed by a licensed engineer. This diagram depicts a suggested piping configuration for a constant volume pump package/drycooler system. Systems may require additional balancing valves, drain valves, flow measuring devices, and other specialties as required by the engineer.
2. This diagram in no way is intended to absolve the contractor of their obligation to meet all applicable codes and the project documents. Refer to project documents and dry cooler IOM manual for additional requirements.
3. If your pump package does not include a variable speed drive, then AboveAir recommends three-way valve operation on all condensing units.
4. Piping specialties are field supplied except where specifically noted on project submittal.
5. Water supply must be isolated from potable system - refer to applicable code requirements.
6. Refer to drycooler manual for additional piping recommendations.
7. Differential pressure valve or bypass pressure relief valve should be installed at the end of the piping run, where system differential pressure will be lowest during normal unit operation. Valve must be sized to provide at least 25% of the pump's best efficiency flow point to ensure adequate flow is returning to the pump to prevent dead heading.

FIGURE 1C: CONSTANT VOLUME SYSTEMS
Alternate configuration 2

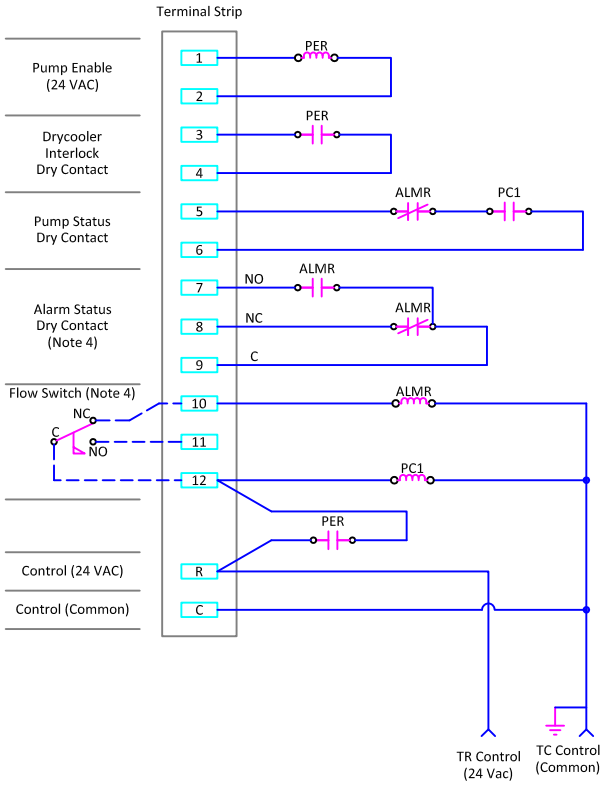


NOTES
1. AboveAir Technologies recommends that all piping systems be designed by a licensed engineer. This diagram depicts a suggested piping configuration for a constant volume pump package/drycooler system. Systems may require additional balancing valves, drain valves, flow measuring devices, and other specialties as required by the engineer.
2. This diagram in no way is intended to absolve the contractor of their obligation to meet all applicable codes and the project documents. Refer to project documents and drycooler IOM manual for additional requirements.
3. If your pump package does not include a variable speed drive, then AboveAir recommends three-way valve operation on all condensing units.
4. Piping specialties are field supplied except where specifically noted on project submittal.
5. Water supply must be isolated from potable system - refer to applicable code requirements.
6. Refer to drycooler manual for additional piping recommendations.
7. Manual bypass constantly bypasses flow and is not an efficient equipment installation. If this piping configuration is selected, ensure that pump has been sized adequately to account for the constant bypass.

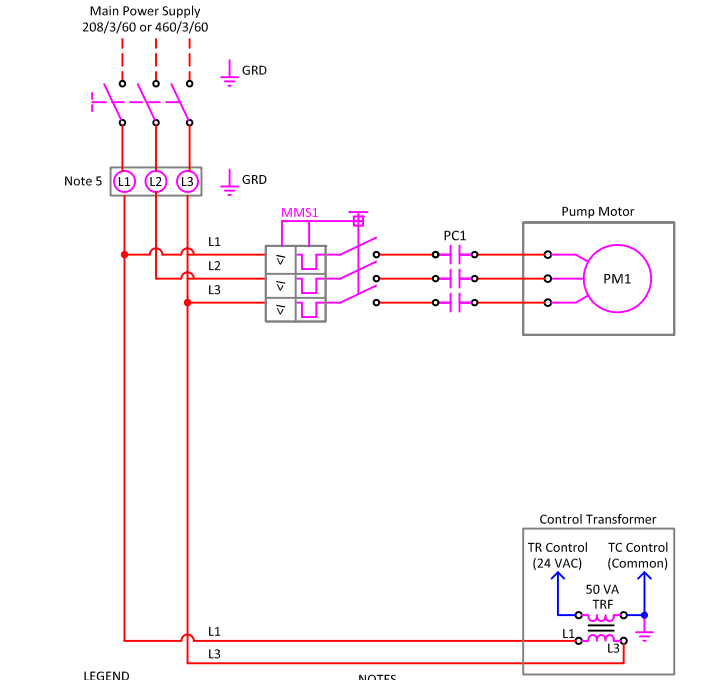
FIGURE 2: VARIABLE VOLUME SYSTEMS
Preferred Configuration



NOTES
1. AboveAir Technologies recommends that all piping systems be designed by a licensed engineer. This diagram depicts a suggested piping configuration for a constant volume pump package/drycooler system. Systems may require additional balancing valves, drain valves, flow measuring devices, and other specialties as required by the engineer.
2. This diagram in no way is intended to absolve the contractor of their obligation to meet all applicable codes and the project documents. Refer to project documents and drycooler IOM manual for additional requirements.
3. If your pump package does not include a variable speed drive, then AboveAir recommends three-way valve operation on all condensing units.
4. Piping specialties are field supplied except where specifically noted on project submittal.
5. Water supply must be isolated from potable system - refer to applicable code requirements.
6. Refer to drycooler manual for additional piping recommendations.
7. AboveAir limits low VFD setting by default. Differential pressure valve or bypass pressure relief valve should be installed at the end of the piping run, where system differential pressure will be lowest during normal unit operation. Valve must be sized to provide such that it provides at least 10% of the pump's best efficiency flow point to ensure adequate flow is returning to the pump to prevent dead heading.
8. VFD requires a pressure sensor installed in the system. Install pressure sensor in the supply main, in the most distant third of the system.



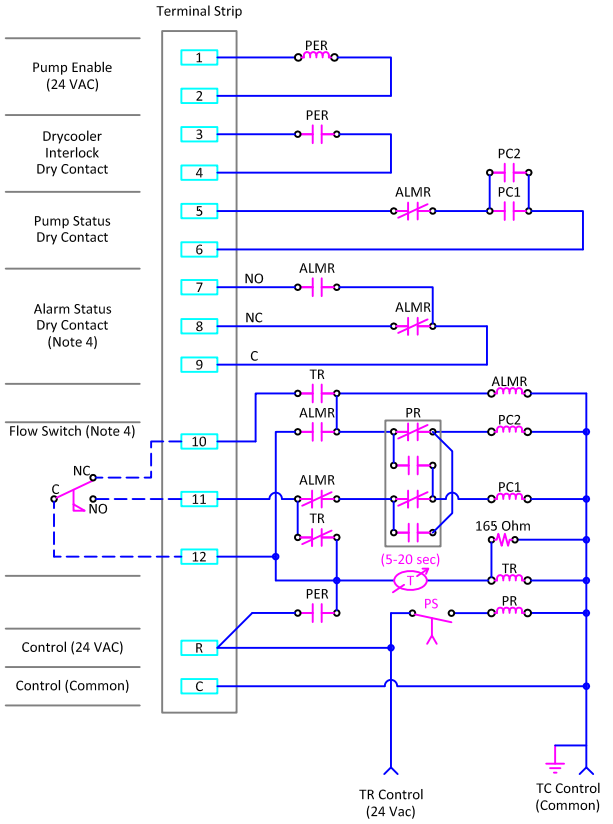
CONTROL WIRING DIAGRAM



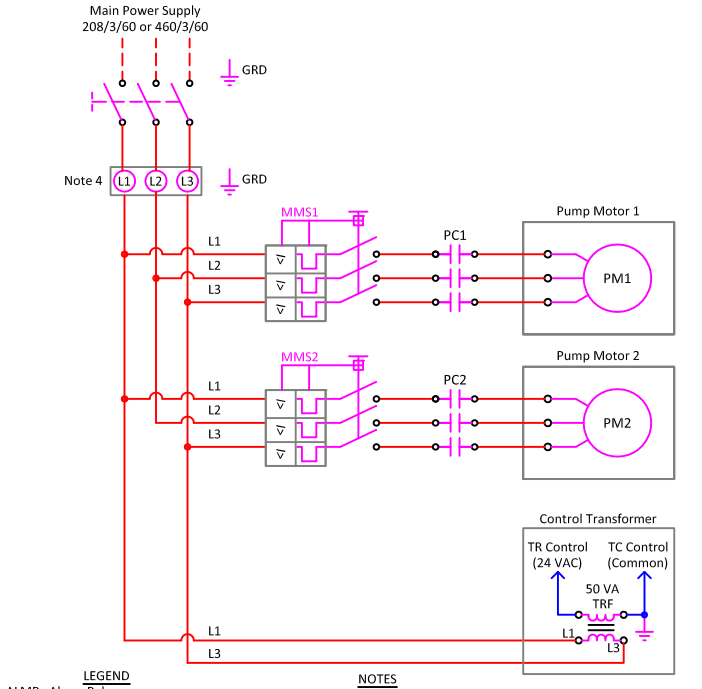
LEGEND
ALMR - Alarm Relay
MMS1- Manual Motor Starter 1
PC1 - Pump Contactor 1
PER - Pump Enable Relay
TRF - Transformer
Terminal
Field Wiring

NOTES
1. Refer to unit nameplate for electrical rating information.
2. Field wiring must be in accordance with NEC/NFPA 70 and all applicable codes.
3. Control transformer sized for loads indicated for connections on this wiring diagram. Do not use control transformer to power additional controls devices.
4. Alarm relay and flow switch are optional for single pump configurations.
5. Power distribution block is optional.

AboveAir Technologies	Description
Tel: (301) 874-1130	Figure 3: Single Pump Wiring Schematic



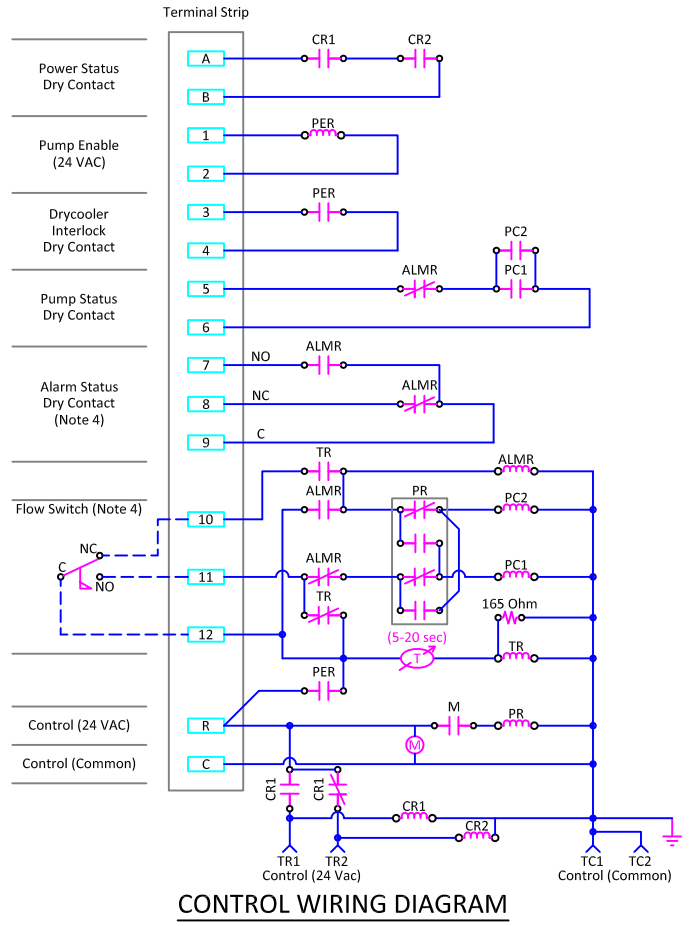
CONTROL WIRING DIAGRAM



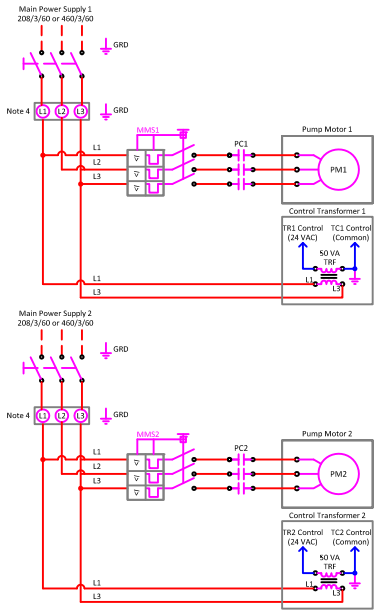
LEGEND
ALMR - Alarm Relay
MMS#- Manual Motor Starter 1, 2
PC# - Pump Contactor 1, 2
PM# - Pump Motor 1, 2
PR - Pump Relay (Lead/Lag)
PS - Pump Switch
PER - Pump Enable Relay
T - Timer
TR - Timer Relay
TRF - Transformer
Terminal
Field Wiring

NOTES
1. Refer to unit nameplate for electrical rating information.
2. Field wiring must be in accordance with NEC/NFPA 70 and all applicable codes.
3. Control transformer sized for loads indicated for connections on this wiring diagram. Do not use control transformer to power additional controls devices.
4. Power distribution block is optional.

AboveAir Technologies	Description
Tel: (301) 874-1130	Figure 4: Dual Pump, Single Point Power Wiring Schematic



CONTROL WIRING DIAGRAM



LEGEND

ALMR - Alarm Relay
MMS#- Manual Motor Starter 1, 2
PC# - Pump Contactor 1, 2
PM# - Pump Motor 1, 2
PR - Pump Relay (Lead/Lag)
PS - Pump Switch
PER - Pump Enable Relay
T - Timer
TR - Timer Relay
TRF - Transformer
Terminal
Field Wiring

NOTES

1. Refer to unit nameplate for electrical rating information.
2. Field wiring must be in accordance with NEC/NFPA 70 and all applicable codes.
3. Control transformer sized for loads indicated for connections on this wiring diagram. Do not use control transformer to power additional controls devices.
4. Power distribution block is optional.

AboveAir Technologies
Tel: (301) 874-1130

Description
Figure 4: Dual Pump, Dual Power Wiring Schematic

Warranty Registration & Start-Up Checklist

Fill in the following information for your PumpAll pump package and the associated drycooler (if applicable). Forward a copy of this registration sheet to productsupport@aboveair.com to register your warranty.

General Information

Job Number: _____
Pump Package Serial Number: _____
Pump Package Model: PA____ - _____
Drycooler Serial Number: _____
Drycooler Model: FCP - _____- ____

Contractor Name: _____
Project Name: _____
AboveAir Rep: _____

Test Technician's Intials: _____
Date: _____/_____/_____

Operating Information

Return Glycol Temp: _____°F DB
Supply Glycol Temp: _____°F DB
System Flow Rate: _____GPM
Total System Head: _____Ft H2O
Glycol Solution: ☐ Ethylene ☐ Propylene
Glycol Solution: _____%
Static Pressure Setting: _____psig

Electrical Components

Flow Switch:	☐ Pass	☐ N/A
Pump-1 Overload:	☐ Pass	☐ N/A
Pump-2 Overload:	☐ Pass	☐ N/A
Pump-3 Overload:	☐ Pass	☐ N/A
Pump Enable:	☐ Pass	☐ N/A
Drycooler Enable:	☐ Pass	☐ N/A
Alarm Contacts:	☐ Pass	☐ N/A

Electrical Measurements

Main Power (Design): ___ V /___ Ph /___ Hz
Main Power (Measured): ___ V
Control Voltage (Measured): ___ V

	Line #1 (Amps)	Line #2 (Amps)	Line#3 (Amps)	Rated (Amps)
Pump-1:	_____	_____	_____	_____
Pump-2:	_____	_____	_____	_____
Pump-3:	_____	_____	_____	_____
Drycooler Fan-1:	_____	_____	_____	_____
Drycooler Fan-2:	_____	_____	_____	_____
Drycooler Fan-3:	_____	_____	_____	_____
Drycooler Fan-4:	_____	_____	_____	_____
Drycooler Fan-5:	_____	_____	_____	_____
Drycooler Fan-6:	_____	_____	_____	_____
Drycooler Fan-7:	_____	_____	_____	_____
Drycooler Fan-8:	_____	_____	_____	_____
Drycooler Fan-9:	_____	_____	_____	_____
Drycooler Fan-10:	_____	_____	_____	_____
Drycooler Fan-11:	_____	_____	_____	_____
Drycooler Fan-12:	_____	_____	_____	_____
Drycooler Fan-13:	_____	_____	_____	_____
Drycooler Fan-14:	_____	_____	_____	_____

Notes: _____
_____
_____
_____

Innovative HVAC Solutions

ABOVEAIR TECHNOLOGIES

Ceiling Air Conditioners

SpotCool™ - 2x4 T-Bar "Spot-Cooler" Comfort & Precision Ceiling Mounted A/C's

HK™ Horizontal - Hi-Static Ducted "Same-Face" Comfort & Precision Ceiling Mounted A/C's

HK-OA™ - Horizontal Up to 100% DOAS High-Percentage Outside Air Ceiling Mounted A/C's

Floor Air Conditioners

VK™ Vertical - SCAV, Vertical Floor Mounted Self-Contained & Split Comfort Constant Air Volume and Variable Air Volume (VAV) A/C's & Heat Pumps

VK-OA™ - Vertical Up to 100% DOAS High- Percentage Outside Air Vertical Floor Mounted A/C's

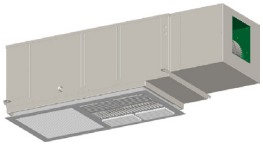
MissionCritical™ - Precision Vertical Floor Mounted Computer Room A/C's

VK™ Console - Vertical Floor Console Mounted Self-Contained & Split A/C's & Heat Pumps

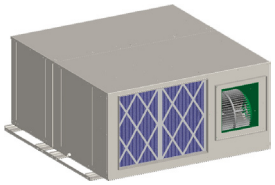
Remote Heat Rejection

FluidCool™ - Indoor & Outdoor Remote Glycol Drycoolers

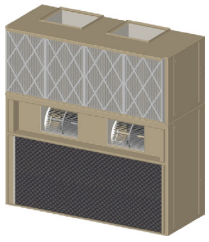
PumpAll™ - Single, Dual & Triplex Standard & Variable (VFD) Speed Glycol Pump Packages



2x4 "Spot-Cooler" Ceiling Mounted A/C's
(1 to 3 Tons)

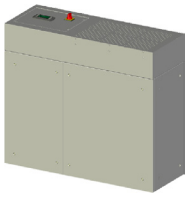


Ducted "Same-Face" Ceiling Mounted A/C's
(1 to 30 Tons)



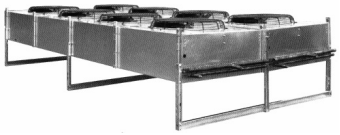
Comfort - Packaged & Split Vertical Floor Mounted Air Conditioners
(1 to 30 Tons)

Precision - Vertical Floor Mounted Computer Room Air Conditioners
(1 to 30 Tons)

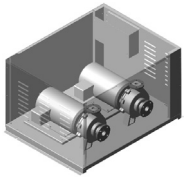


VK-Console™ **- Up-Flow & Down-Flow Floor Console Mounted Air Conditioners**
(1 to 5 Tons)

Remote Air Cooled Condensers, Condensing Units & Glycol Drycoolers
(1 to 180 Tons of THR)



Single & Dual Glycol Pump Packages
(1/2 to 50 HP)



www.aboveair.com

ABOVEAIR TECHNOLOGIES

5179 Mountville Road
Frederick, Maryland 21703, U.S.A.
Phone: 301-874-1130, Facsimile: 301-874-1131

Email: sales@aboveair.com