



atlas air

CLIMATECARE.

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AN ENGINEER'S OPINION



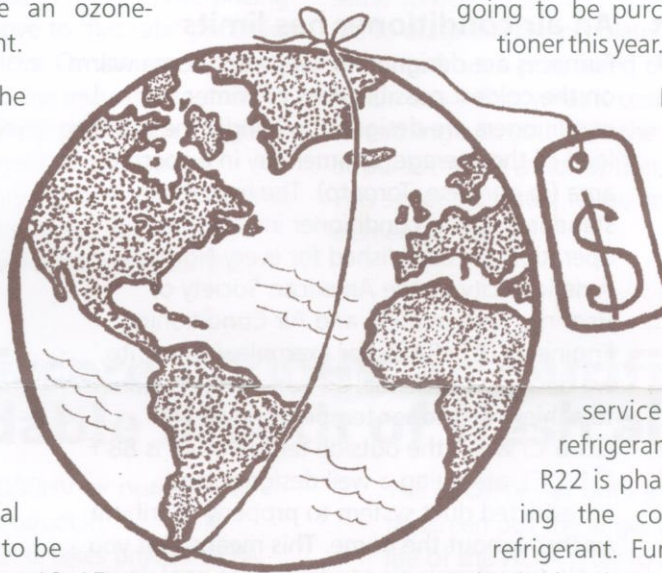
Editorial

Cooling technology doesn't have to cost the earth

At Atlas we pride ourselves on being at the leading edge of technology in our industry. However, this does not mean that we are at the 'bleeding edge'. By this we mean that any new technology carries some risk until it has been field tested. Since your comfort and safety are important to us, we like to ensure that new products have proven track records before we introduce them to you. This is certainly true of the new line of Carrier air conditioners that use an ozone-layer-friendly refrigerant.

A few years ago, the refrigerants used in automobile air conditioners, refrigerators, and freezers were phased out because of their harmful effects on the earth's ozone layer. R-22, the refrigerant used in virtually every residential air conditioner, is due to be phased out over the next 10-15 years. In response to this change, Carrier has been working for the last several years to develop air conditioners that are able to use R410a, an alternative and harmless refrigerant.

Labeled Puron[®] by Carrier, R410a has been chosen by the air conditioning industry as the successful replacement for R-22. Unfortunately, it is not an exact replacement, and equipment that will use this new refrigerant must be completely redesigned from the ground up. After 5 years, Carrier now has a proven line of air conditioners that use Puron[®]. Carrier has over 100,000 installed Puron[®] air conditioning units, and we are satisfied that the time is right to consider a Puron[®] unit if you are going to be purchasing a new air conditioner this year.



If you have reservations about switching to a new form of cooling technology, consider this: while it is possible that a unit purchased today with R22 would provide reliable

service over its useful life, refrigerant prices will likely rise as R22 is phased out, thereby increasing the cost of repairs involving refrigerant. Furthermore, the European Union is planning to move up the date for the phase out of R22 to 2001 for air conditioners. In the end, the elimination of one major threat to the destruction of the earth's ozone layer may be the best reason of all.

An Engineer's Opinion

An Engineer's Opinion is published to assist homeowners in creating the healthiest, most comfortable environment in their homes at the most reasonable cost. If you have questions, criticism, or input, we want to hear them. Please write or call me personally.

Roger Grochmal, P.Eng.,
President

Cooling expectations

Last year when it got hot, our service department got a number of calls complaining that the "air conditioner isn't cooling enough". Often the problem is that people expect to have as much control of their air conditioner as they do of their furnace. Of course, there may be a reason why your air conditioner isn't cooling as efficiently as it should, and there are things you can do to maximize cooling. The following is a guide to what you can—and can't—expect from your air conditioner.

Air conditioners perform two jobs

No matter how cold it gets, your furnace can easily do its job: as it gets colder, the furnace simply burns more fuel. But an air conditioner has to perform two big jobs in a warm house. The first, and most stressful job, is to dehumidify the air. The second job is to cool the air. Because it has to control both humidity *and* temperature, an air conditioner's technology is both more complex and more sensitive to wear-and-tear than that of a furnace.

An air conditioner has limits

Furnaces are designed to keep your home warm on the coldest possible days of winter. Air conditioners are designed to handle the cooling load of the *average* summer day in a specific area (in our case, Toronto). The industry standards for air conditioner installation and operation are established for every North American city by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE). For example, in Toronto, we design a residential air conditioning system to achieve an indoor temperature of 75°F (23.8°C) when the outside temperature is 88°F (31.1°C), assuming a well designed and unrestricted duct system to properly distribute air throughout the home. This means that you can't expect your air conditioner to cool your home to 20°C when it is 34°C outside.

What you can do to get the most out of your air conditioner

1 **Ensure good air flow.** Air conditioners need a lot more air flow than furnaces do to function properly. Unfortunately, many duct systems are designed to meet the minimum requirement for heating systems, which means that there isn't nearly enough air

to cool a house properly, no matter how big the air conditioner is. Other sources of restricted air flow include undersized or oversized furnace plenums, poorly installed ducts with improper takeoffs, and excess bends in the duct work. You should also ensure that supply and return vents are not blocked with furniture.

2 **Have your cooling system serviced every summer.** Your air conditioner's efficiency will decrease dramatically if it isn't cleaned and checked regularly. A good maintenance check-up will take care of air flow restrictions such as a dirty furnace blower, filter, and coil.

3 **Don't make big thermostat adjustments.** A furnace can be expected to warm up the house in an hour or so even if the thermostat has been turned off for a while. This is not true for an air conditioner! If a brick house sits all day with the air conditioner off, it can take as long as 18 hours to cool it back down. The air conditioner has to remove all the humidity that accumulated during the day, and bricks store heat, which radiates into the house long after the sun goes down. To avoid undue wear-and-tear on your air conditioner and save costly repairs, it's best to set your thermostat to a reasonable temperature for the whole summer.

Troubleshooting

If you have a problem with your air conditioner, do yourself a favour and perform the following checks before calling Atlas for service:

- * Check to see that the filter or air cleaner is clean. This is the most common cause of poor cooling in homes.
- * Check to see if the fuse is blown or the breaker is tripped.
- * Check the thermostat setting.

Water leaking

Because an air conditioner is also a dehumidifier, water is always present. If you see water leaking into the furnace or onto the floor, or if you see ice build up on the coil above the furnace, immediately turn the air conditioner off, and call Atlas for service. Do NOT continue to operate the air conditioner when water leaks or you could cause serious damage to your home. This is especially important for air conditioners installed in an attic.

Is bigger better? When an air conditioner is too large, the house cools down too quickly and the air conditioner switches off before it can remove all of the humidity. The result is a cold, clammy house—an environment only mildew would appreciate.



The Carrier 38TZA Puron® air conditioner comes with our famous 'No Lemon' guarantee

The Carrier 38TZA Puron® air conditioner

The Carrier 38TZA is not only the most environmentally friendly air conditioner on the market it is also among the highest quality models from Carrier or anyone else. Carrier has completely redesigned this model from the ground up to utilize Puron® refrigerant while embodying the finest features of its other high-end air conditioner models. It uses scroll compressor technology for more efficient and reliable operation. This is a 12 SEER high-efficiency unit, which makes it 50% more efficient than most 10- to 15-year old models around today.

Carrier has gone to great lengths to make this one of the quietest units on the market. It would take 16 of these units to create enough noise to equal that of a standard model. Anyone who

has had to listen to an old rattletrap will appreciate the value of this feature.

In addition to a 10-year warranty on the compressor, it comes with a 5-year Atlas parts-and-labour warranty and our famous No Lemon Atlas Guarantee.

Since these units operate at significantly higher pressures than R22 units, particular attention must be paid to the installation to ensure that there are no refrigerant leaks. It is also important to have a matching evaporator coil installed with it to obtain the efficiencies designed into the unit.

Atlas now has the 38TZA units in stock for immediate installation this spring. Get your new air conditioner installed early so you'll be ready to beat the heat.

A \$500 retail value

Purchase a new Carrier 38TZA air conditioner and receive the Atlas Gold+ Plan at no extra charge.

Our Gold+ Plan* includes the following:

- ♦ No charge on parts or labour involved in repairs
- ♦ No charge on routine annual maintenance and inspections

*Should you sell your house, this warranty is transferrable to the new owners. The Gold+ Plan covers only the first 5 years of the life of the 38TZA.

Atlas' new flat-rate pricing takes the suspense out of repair costs

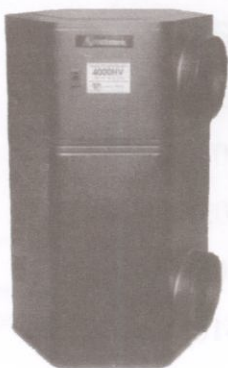
One of the trends in retail service pricing has been a move to "flat rate" prices for standard services. On January 1 of this year Atlas implemented the industry standard flat rate system called RIPS, or Reliable Image Pricing System. The benefit of RIPS to the homeowner is that everyone pays the same. We have eliminated the perception that different customers might pay different prices for the

same service. Under this system, Atlas charges a flat fee to diagnose the problem and then provides a firm estimate from a preprinted price book to make the repair. You know what it costs in advance to repair something and you have the opportunity to decline or pursue some other option before the work begins. This system is faster, fairer, and eliminates the surprise element of repairs.

The Amaircare 4000HV air purifier: an affordable breath of fresh air

The Amaircare 4000HV air purifier is a breakthrough product in the home market for 2000. It takes proven HEPA filtration technology and, for the first time, delivers it in an affordable package. Whole-house HEPA filtration systems have been available for some time. However, they were bulky, unattractive, and costly. The 4000HV unit has been completely redesigned into a more compact unit that will fit into most furnace rooms without sacrificing any of the efficiency of its bulkier predecessors. Our test with a laser particle counter set at the smallest particle size (0.3 microns) read zero particles in the discharge air. This is as good as it gets.

The 4000HV has both a prefilter and a postfilter to screen out the larger particles and extend the life of the HEPA filter to last from 2 to 5 years. An optional carbon VOC canister will soon be available to remove harmful gases and offensive odours in addition to particles. The 4000HV has established a new price level for the ultimate in home air purification that is only a small premium over traditional air cleaner units. This product is no longer only a luxury for the highly sensitive people with asthma or other respiratory problems. You too can have the ultimate in pure air.



atlas notes **Introducing our new North Toronto Branch**

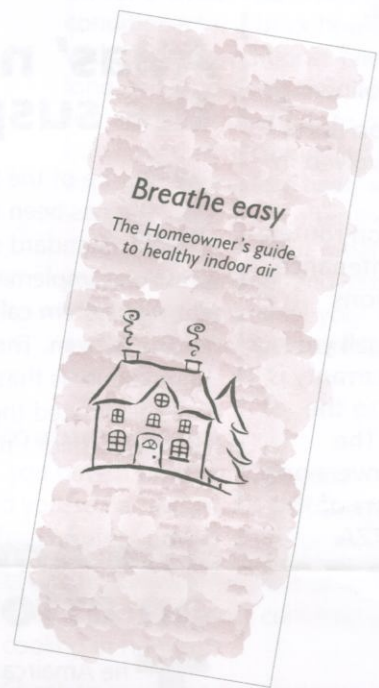
Atlas is committed to having a strong local presence in each of the markets we serve. Our customers tell us that they like dealing with the same people both in the office and in the field. This provides a level of personal service that our larger competitors can't match, while at the same time, leaves a feeling of comfort and security. We now have a sufficient volume of business in Toronto that we have decided to set up a separate branch in North Toronto to address those customers' needs directly. The branch will be managed by David Cooke, an expert in indoor air quality issues for the past 10 years. He will be ably assisted by Paula Brasil in the office and service technicians

Al Caruk, Dag Rummeda, Ron Hickox, and Ricardo Soon Fah.



Breathe easy

One of the things I do to help educate people on Indoor Air Quality issues is to speak periodically at hospital respiratory clinics. I have done this over the past 2 years primarily to help sufferers of emphysema get the most relief from their home environments. Out of these talks grew our new indoor air quality brochure, *Breathe Easy*. This brochure provides a definition of good indoor air quality, and provides information on sources and solutions to indoor air quality problems. *Breathe easy* has been distributed to respirologists and asthma clinics in the Toronto area for use in educating their patients on indoor air quality issues. If you would like to get your own copy, you can request it from the Atlas website at www.atlasair.on.ca or call your local Atlas office.



Atlas Air Conditioning Company



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