

# Understanding & Selling IAQ

## Objectives

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MAYBE WITH  
CUSTOMERS/HOMEOWNERS

### In this course, you will learn to:

- Understand IAQ issues and solutions
- Present customers with IAQ solution options to address their air quality needs

# Understanding IAQ

## Introduction

- Air in homes and other buildings is becoming increasingly polluted.
- Often, indoor air is more polluted than outdoor air.
- Because many people spend 90% of their time indoors, the chance of being exposed to poor quality air is great.



# Understanding IAQ

## Sources of indoor pollution

- Adhesives
- Air fresheners
- Asbestos floor tiles
- Carpets
- Cleaning supplies
- Fireplaces
- Hobby supplies
- House dust mites
- Household chemicals
- Mold
- Personal care products
- Paneling
- Paint supplies
- Pesticides
- Pet waste
- Pet dander and hair
- Pet products
- Pressed wood furniture
- Pressed wood subflooring
- Tobacco smoke
- Stored fuels
- Radon

# Understanding IAQ

## Common pollutants

- Radon
- Environmental tobacco smoke
- Biological contaminants
  - Dust mites
  - Molds
- Household products containing organic chemicals
- Pesticides
- Asbestos
- Lead



# Understanding IAQ

## Monitoring / Elimination / Source control

- Some types of contamination can be easily determined; steps can be taken to eliminate the source
- Many types of indoor air quality testing and monitoring instruments are available
  - Carbon dioxide
  - Carbon monoxide
  - Hydrogen sulfide
  - Sulfur dioxide
  - Chlorine
  - And others...



# Understanding IAQ

## Ventilation

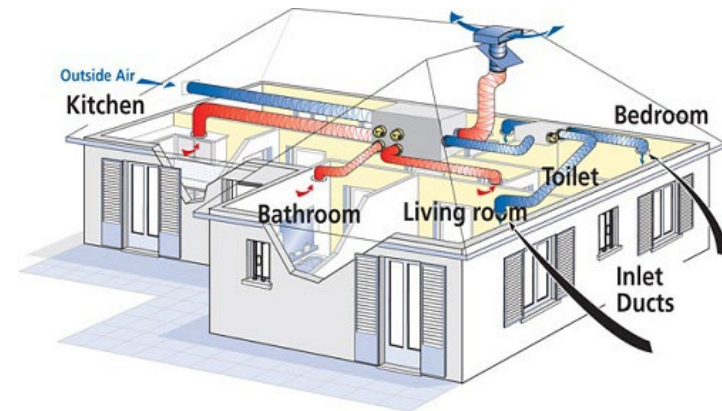
- Most modern homes are designed and constructed more tightly to keep outside air out
- This may result in accumulation of pollution inside
- Inadequate ventilation may increase the effects of indoor air pollution
- Ventilation equipment offsets the negative effects of tight construction



# Understanding IAQ

## Ventilation, cont.

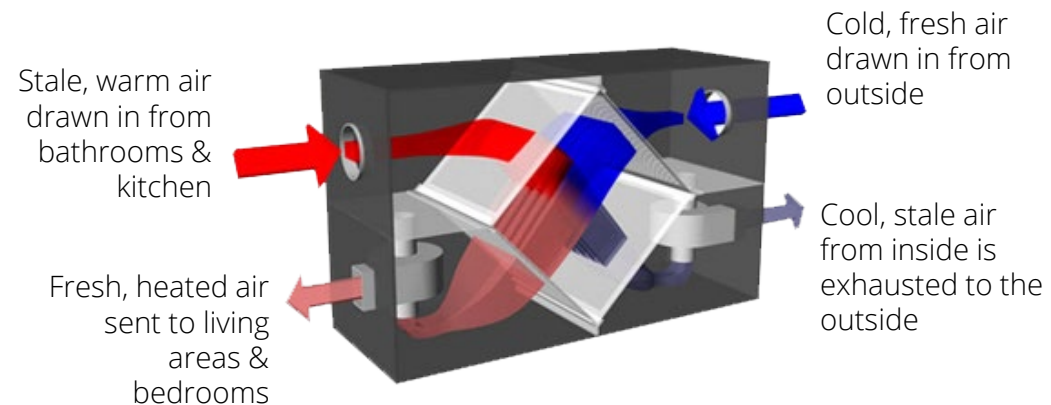
- Ventilation = process of supplying air by natural or mechanical means
- Ventilation air = part of the air supplied from outdoors plus any recirculated air that has been cleaned or treated
- Ventilation has a negative effect on the efficiency of heating and cooling systems



# Understanding IAQ

## Ventilation, cont.

- Recovery ventilators supply air to the home and exhaust stale air while recovering energy from the exhaust air, thus reducing negative effects on system efficiency.
- HRV (Heat Recovery Ventilator) – transfers heat; used primarily in northern climates where cooling is not a major factor
- ERV (Energy Recovery Ventilator) – transfers heat and moisture



HRV



ERV

# Understanding IAQ

## Filtration / Purification

- Types of air cleaners:
  - Filters
  - Electronic air cleaners
  - Ultraviolet (UV) light
- “Hybrid” devices contain two or more particle-removing devices



# Understanding IAQ

## Filtration / Purification, cont.

- HEPA filters
  - Where highest degree of filtration is desired
  - Can capture particles down to 0.3 micron – e.g., mold, dust mites, bacteria, pollen, & other allergens
- Electrostatic precipitators / electronic air cleaners
  - Normally have a prefilter section that filters out larger airborne particles and an ionizing or charging section

Electronic air cleaner



Media air cleaner



# Understanding IAQ

## Filtration / Purification, cont.

- UV/germicidal lights
  - UV-C light can penetrate the walls of microbes that negatively affect air quality
  - Damages the DNA of the microbe – kills smaller, weaker ones and prevents larger ones from reproducing
  - Most effective when used in conjunction with high-efficiency filtration media

UV coil purifier



UV coil purifier for furnaces

# Understanding IAQ

## Humidification / Dehumidification

- Humidification
  - In fall and winter, homes often feel dry
  - For comfort, “dry” air should be replenished with moisture



# Understanding IAQ

## Humidification / Dehumidification, cont.

- Bypass evaporative humidifiers
  - Rely on the difference in pressure between the supply (warm) side of the furnace and the return (cool) side
  - Difference in pressure between the plenums drawn some heated air through the humidifier to the return duct
- Steam humidifiers
  - Heat water internally to create steam
  - Steam injected into ductwork

Evaporative humidifier



Steam humidifier

# Understanding IAQ

## Humidification / Dehumidification, cont.

- Dehumidification
  - Removes moisture from the air
  - Most useful in spring and fall
- Dehumidifiers
  - Help maintain comfortable environment
  - Some may clean air as well as dehumidify
  - Can keep home furnishings from being damaged by overly moist air



# Selling IAQ

## 6-step selling process

- Educate your customer
- Assess IAQ in the home
- Identify the IAQ issues
- Present recommendations
- Install equipment
- Validate customer's decisions

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# Selling IAQ

## Educate your customer

- Explain types of contaminants found in the home
- Explain impact of IAQ on health, comfort, & cleanliness
- Explain strategies for improving indoor air – monitoring / elimination / source control; ventilation; filtration / purification; humidity control
- Explain the role IAQ plays in complete and continuous indoor comfort
- Explain “whole home” comfort to demonstrate that IAQ is as important as heating and cooling
- Explain how HVAC equipment contributes to the complete and continuous comfort of a home



# Selling IAQ

## IAQ Home Assessment

- Use an IAQ home assessment survey to determine possible sources of indoor air contamination and to see what equipment exists in the home
- Encourage customers to identify:
  - Health concerns (e.g., asthma/allergy sufferers)
  - Home comfort concerns (e.g., humidity, noise)
  - Home cleanliness concerns (e.g., dust, pet dander)

INDOOR AIR QUALITY

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Home Assessment Questions

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**OBSERVE:**

1. Are there pets in the home?  YES  NO
2. Are there fireplaces?  YES  NO
3. Are there unusual and noticeable odors?  YES  NO
4. Is there an attached garage?  YES  NO
5. Are there cracks in the foundation or walls?  YES  NO
6. Are there any unvented gas appliances (for example: stove, space heater, etc.)?  YES  NO
7. Is dust on the furniture noticeable?  YES  NO
8. Is there evidence of moisture problems on the foundation?  YES  NO
9. Is there wall-to-wall carpeting?  YES  NO

**INQUIRE:**

1. Do you use any stand-alone IAQ equipment (for example: humidifier, dehumidifier, Ionic Breeze, or plug-in air filters)?  YES  NO
2. Does anyone suffer from allergies or asthma?  YES  NO
3. Is there a lot of static electricity in the home during the winter?  YES  NO
4. Do you have any hot or cold spots in the home?  YES  NO
5. Do any household members smoke?  YES  NO
6. Do you use a high efficiency filter for your home's forced air heating and/or cooling system?  YES  NO
7. What is the age of your existing HVAC equipment?
8. Do you have to adjust the volume on the TV or stereo when your HVAC system comes on?  YES  NO
9. Is the furnace in good working order and is it cleaned and inspected yearly by a licensed heating contractor?  YES  NO
10. Do you run your HVAC fan constantly?  YES  NO
11. Do you vacuum regularly with a high-efficiency filter vacuum cleaner?  YES  NO
12. Are any of the following hobbies conducted indoors: woodworking, jewelry making, pottery, crafting, or model building?  YES  NO
13. Are there any children in the home?  YES  NO
14. Are there any elderly family members in the home?  YES  NO
15. Have you tested your home for radon?  YES  NO
16. Have you installed a carbon monoxide detector?  YES  NO

# Selling IAQ

## IAQ Home Assessment, cont.

- Identify customers' buying motives
  - Comfort and pleasure – enjoyment, good health, comfort, cleanliness
  - Avoidance of pain – less work, less time, safety, good health, relief from discomfort
  - Love and affection – family, security of loved ones, health of loved ones
  - Fear of loss – prevent loss, save time, save money, protect health of loved ones



# Selling IAQ

## IAQ Home Assessment, cont.

- Add value to your service, setting you apart from the competition.
  - Set the buying criteria of your customer
  - Set a standard by which all competition will be judged
  - Reinforce the complete and continuous comfort approach
  - Justify your solution's cost, not your equipment's price



# Selling IAQ

## IAQ Home Assessment, cont.

- Observe and inspect the home.
- Inspect the existing HVAC system.
  - Age of existing equipment
  - Efficiency rating of existing equipment
  - Duct leakage
  - Accessories (upgraded t-stats, filtration, zoning, humidifiers, etc.)



# Selling IAQ

## Identify IAQ issues

Analyze assessments to determine types of issues

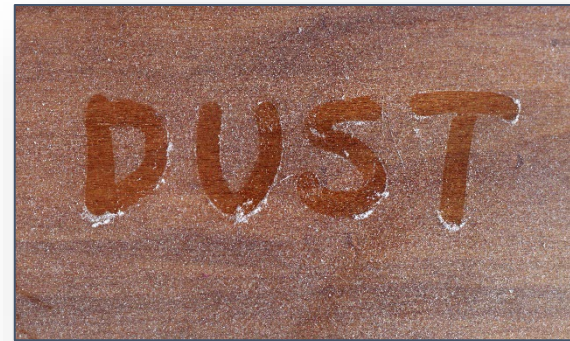
- Health issues
  - Allergy and asthma sufferers
  - Pets
  - Odors / chemical vapors
  - Particulates (pollen, dust, dirt)
  - Bio-aerosols (mold spores, bacteria, fungi, viruses)
- Comfort issues
  - Humidity
  - Inconsistent temperatures (hot / cold spots)
  - System short cycling
  - Noise, efficiency, reliability



# Selling IAQ

## Identify IAQ issues, cont.

- Cleanliness issues
  - Dust, dirt
  - Mold, mildew
  - Stale, musty odors



# Selling IAQ

## Identify IAQ issues, cont.

Determine sources of contamination

- Duct leakage
- Pets
- Cleaning supplies or other household chemicals
- Attached garage
- Lifestyle
- Improperly installed and/or improperly sized equipment



## Selling IAQ

### Identifying the need – Scenario 1: Pet odor

- Upon entering the home, you notice a lingering pet odor; you see there's a family dog.
- Tactfully inform customer that lingering pet odors can cause health problems in addition to discomfort.
- Make it about comfort *and* health.
- Ask customer-benefit questions, such as:

*“Is anyone in the house allergic to pet odors or volatile organic compounds?”*



# Selling IAQ

## Identifying the need – Scenario 1: Pet odor, cont.

- Identify the solution...

### BEST

- Clean Comfort AMHP 5-Stage Air Treatment
- Clean Comfort ERV/HRV



### BETTER

- Clean Comfort AMHP HEPA Air Cleaner
- Clean Comfort ERV/HRV



### GOOD

- Clean Comfort AM Media Air Cleaner



# Selling IAQ

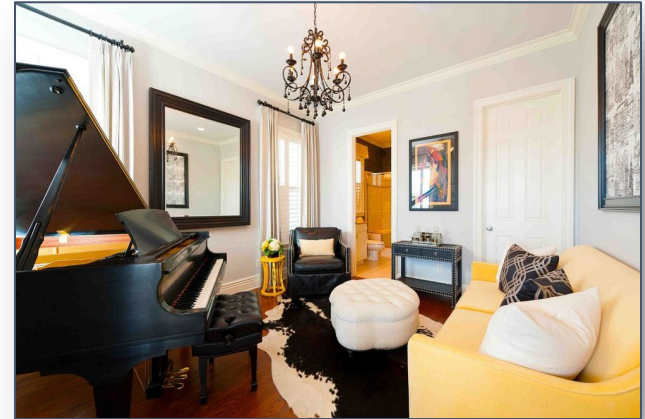
## Identifying the need – Scenario 2: Dry air

- In the customer's home, you see wood floors, indoor plants, & a piano.
- Educate the customer that dry air results in health problems, causes wood to split, affects the health of indoor plants, and impacts tuning of musical instruments.
- Suggested questions you could ask:

*“Does anyone get sinus infections?”*

*“Does anyone have dry sinuses? Dry skin?”*

*“Ever notice static electricity?”*



# Selling IAQ

## Identifying the need – Scenario 2: Dry air, cont.

- Identify the solution...

### BEST

- Clean Comfort Steam Humidifier
- Clean Comfort ERV/HRV



### BETTER

- Clean Comfort bypass Evaporative Humidifier w/ automatic control



### GOOD

- Clean Comfort bypass Evaporative Humidifier w/ manual control



# Selling IAQ

## Identifying the need – Scenario 3: High humidity

- In the customer's home, you see mildew around the registers, notice the air is clammy, and see the thermostat is set below 70 degrees.
- Educate the customer on the adverse effects of mold, mildew, and other contaminants that grow in humid conditions.
- Directly address your observations:



*“Are you aware of the mildew on your registers?”*

*“These conditions are ideal for contaminant growth.”*

# Selling IAQ

## Identifying the need – Scenario 3: High humidity, cont.

- Identify the solution...

### BEST

- Clean Comfort DV070 Dehumidifier



### BETTER

- Clean Comfort DV098 Dehumidifier



### GOOD

- Clean Comfort DV155 Dehumidifier



## Selling IAQ

### Identifying the need – Scenario 4: Dust

- As you walk through the home, you notice dust on the TV and furniture, black streaks under internal doorways, and a negative draft.
- Show the customer your findings.
- Questions:



*“Do you notice that you have to dust frequently?”*

*“Is anyone in the house allergic to dust?”*

*“Have you ever noticed these streaks under your doors?”*

# Selling IAQ

## Identifying the need – Scenario 4: Dust, cont.

- Identify the solution...

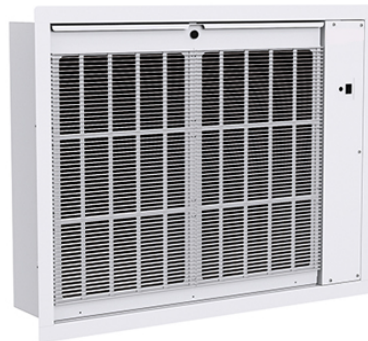
### BEST

- Clean Comfort AMHP 5-Stage Air Treatment



### BETTER

- Clean Comfort AMHP Electronic Air Cleaner



### GOOD

- Clean Comfort AM Media Air Cleaner



# Selling IAQ

## Present recommendations

Make a professional presentation of your recommendations

- Present your company's qualifications
- Review your customers' concerns – allow them to sell themselves on your solutions
- Present your solutions
- Present the cost of your solutions with confidence, knowing your solutions are of great benefit to your customers
- Offer a scheduled maintenance programs as part of your proposal
- Request approval to schedule the installation – ASK FOR THE SALE!



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# Selling IAQ

## Install equipment

- Discuss the installation with your team and your customer
  - Explain the customer's concerns and provide background on your customer
  - Coordinate installation
- Confirm installation plans
  - Confirm installation date with your customer
  - Confirm installation date with your team
  - Complete the installation



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*EXCEED your customer's  
expectations!*

*Doing so will justify your price  
exceeding that of your competitors.*

# Selling IAQ

## Validate your customer's purchase decisions

Thank your customers for buying your solutions!

- Send a "Thank You" card and let your customer know you are always available to answer questions or offer advice
- Offer a "Preferred Customer" discount for preventive maintenance of the newly installed equipment
- Send customer reminders for maintenance 9 to 11 months after install (e.g., filters, UV lights)

