TruComfort Variable Speed Systems
Introducing

Trane TruComfort™ Systems
Our quietest and most precise comfort experience.
XV20i and XV18 TruComfort Systems

- Trane is the First to Offer Two SEER Levels of Variable Speed AC/HP Systems
- Available in 2-3-4-5 ton sizes
- Air Conditioners - up to 21 SEER/14 EER
- Heat Pumps - up to 20 SEER/13 EER/10 HSPF

First Order Date: April 1st for All Trane Dealers
Approved Indoor Models for TruComfort Variable Speed Systems

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All XC80/95m Furnaces

XC95m (XC80 furnace not shown)

Must be A TAMC series air handler

Optional accessory – Must be TFD**********E series.

Must be an XL950 control with 3.0 or later software

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Trane Coils Only

4TXC for Upflow and Horizontal Left

New Hi-Efficiency 4NXC*****HR

Models for Downflow & Horizontal Right
New Compressor Speed Indicator for the XL950 Control

Blue Speed Dial for Cooling Mode

Red Speed Dial For Heating Mode
Training is a Pre-Requisite to Sales for All Dealers

Distributors will be responsible for training dealers prior to purchasing Variable Speed Systems and ensuring they keep a trained technician on staff full time.
Single Inverter Drive for All Models

Built in Drive Diagnostics

Technician Control Menu

**Drive Test Notes**
1. Drop Diagnostics forces a shutdown and on-site repair if compressor is operated before completing the drive diagnostic routine.
2. The C0 system enters a hard lockout state to ensure no other system component is attempting to run.
3. Drive "TESTING" while external diagnostics are being performed for 80 seconds.
4. Over the next 120 seconds, the diagnostics will be completed and the results displayed in the display.
5. If the drive test is not ended, a 3-hour timer will be followed, and upon expiration of that timer, the FPC will automatically reset itself.

**Technician Control Menu**

- **CONFIG MENU**
- **CONTROL MENU**
- **MONITOR MENU**

**Monitor Menu**

- Run Dry Test: Press Enter
- Testing
  - Passed
  - No Fault
  - Failed (Locked Motor)
  - Failed (Drive Fan)
- Shorted Wire/Wiring
- Open Wire/Wiring
- **Monitor Menu**

**Notation:** If system is in Lockout, Unit Tests are not available.

**Mastering the Business of Winning**
Competitive Control Box Designs

Nordyne – IQ Drive

Carrier – Greenspeed

Trane – TruComfort

Streamlined Control Box and Inverter Design
“Reduces the Fear factor for Technicians”
Variable Speed is not new Technology for Trane
“It’s Technology Perfected”
TruComfort Field Trial Deployment Map

Good geographic coverage for both A/Cs and Heat Pumps

Our Most Extensive Field Testing Ever
“Accumulated over 50,000 run hours”

MASTERING THE BUSINESS OF WINNING
Phoenix 5 Ton Field Trial System ran 97% of the time for 4 days straight - 120 degrees.
Phoenix 5 Ton Field Trial
Inverter de-rate temperatures were not reached even at 120 degrees ambient!
TruComfort Consumer Value Proposition

Put your comfort on cruise control.

Trane TruComfort™ Variable Speed systems maintain a consistent temperature with maximum efficiency by automatically making minor, continuous adjustments in output all day long, all night long. The result is efficient, affordable and reliable comfort, like you have never seen before.

“Efficient, Affordable and Reliable Comfort”
## XL & XV Heat Pump Efficiency Level Comparison

### SEER / EER / HSPF

<table>
<thead>
<tr>
<th>Tonnage</th>
<th>XL18</th>
<th>XL20i</th>
<th>XV18</th>
<th>XV20i</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Ton</td>
<td>17.25/13.25/9.5</td>
<td>19/14/10</td>
<td>18/13/10</td>
<td>19.25/13.75/10</td>
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<td>3 Ton</td>
<td>18/13/9.5</td>
<td>19/13/10</td>
<td>18/13/10</td>
<td>20.00/13/10</td>
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<tr>
<td>4 Ton</td>
<td>17.25/12.5/9.5</td>
<td>17.25/12.25/9.2</td>
<td>18/12.5/10</td>
<td>19.25/12.5/10</td>
</tr>
<tr>
<td>5 Ton</td>
<td>16/12/9.2</td>
<td>17.5/11.5/10</td>
<td>18/12.5/10</td>
<td>19/12.7/10</td>
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</tbody>
</table>

TruComfort Variable Speed Improves Comfort and Efficiency
Thursday, Jan. 23, 2014: Trane Introduces Ultra High Efficiency Variable Speed System

January 23, 2014

NEW YORK — Trane is introducing the new TruComfort™ XV-S variable speed system, which delivers efficiencies of up to 27.5 SEER. The product represents Trane’s next generation platform that builds upon the TruComfort variable speed technology used in the XV18 and XV20i. The XV-S demonstrates the scalability of TruComfort technology, which can be applied in the 17-21 SEER segment, as well as in ultra high-efficiency systems like the XV-S.

Shown posing with the new XV-S (from left to right) are Julie McLean, Shawn Laskoski, Tyson Stuelpe, Tim Storm, Matt Barga, and Larry Oliver.
Built On Our Tradition of Reliability and Innovation

- The quietest. 4 dB below nearest competitor's minimum.
- Tortured and tested to our reliability standards, the best in the industry today.
- Precision comfort to 1/2°.
- Enhanced clean air delivery with CleanEffects™.
- Next level humidity control for ultimate comfort and efficiency.
### TruComfort Air Conditioner
#### Sound Level Comparison

<table>
<thead>
<tr>
<th>Air Conditioners</th>
<th>Sound Level dBA</th>
<th>Tonnage</th>
<th>Min Cool</th>
<th>Max Cool</th>
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</thead>
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<tr>
<td>Trane XV18/20i</td>
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<td>2</td>
<td>57</td>
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<tr>
<td>Lennox XC25</td>
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<td>59</td>
<td>70</td>
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<tr>
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<td>55</td>
<td>70</td>
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<tr>
<td>Lennox XC25</td>
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<td>59</td>
<td>73</td>
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<tr>
<td>Trane XV18/20i</td>
<td></td>
<td>4</td>
<td>57</td>
<td>74</td>
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<tr>
<td>Lennox XC25</td>
<td></td>
<td>4</td>
<td>66</td>
<td>74</td>
</tr>
<tr>
<td>Trane XV18/20i</td>
<td></td>
<td>5</td>
<td>62</td>
<td>75</td>
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<tr>
<td>Lennox XC25</td>
<td></td>
<td>5</td>
<td>64</td>
<td>74</td>
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## TruComfort Heat Pump Sound Level Comparison

<table>
<thead>
<tr>
<th>Heat Pumps</th>
<th>Tonnage</th>
<th>Min Cool</th>
<th>Max Cool</th>
<th>Min Heat</th>
<th>Max Heat</th>
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<tr>
<td>Trane XV18/20i</td>
<td>2</td>
<td>54</td>
<td>65</td>
<td>60</td>
<td>69</td>
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<tr>
<td>Lennox XP25</td>
<td>2</td>
<td>58</td>
<td>68</td>
<td>58</td>
<td>68</td>
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<td>Carrier Greenspeed</td>
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<td><strong>Trane XV18</strong></td>
<td>3</td>
<td>56</td>
<td>70</td>
<td>60</td>
<td>74</td>
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<tr>
<td><strong>Trane XV20i</strong></td>
<td>3</td>
<td>59</td>
<td>70</td>
<td>60</td>
<td>72</td>
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<tr>
<td>Lennox XP25</td>
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<td>58</td>
<td>73</td>
<td>58</td>
<td>73</td>
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<tr>
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<td>58</td>
<td>65</td>
<td>62</td>
<td>75</td>
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<tr>
<td><strong>Trane XV18/20i</strong></td>
<td>4</td>
<td>61</td>
<td>74</td>
<td>62</td>
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<tr>
<td>Lennox XP25</td>
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<tr>
<td>Carrier Greenspeed</td>
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<td>70</td>
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<td>76</td>
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<tr>
<td><strong>Trane XV18/20i</strong></td>
<td>5</td>
<td>57</td>
<td>73</td>
<td>61</td>
<td>74</td>
</tr>
<tr>
<td>Lennox XP25</td>
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<td>64</td>
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</tr>
<tr>
<td>Carrier Greenspeed</td>
<td>5</td>
<td>65</td>
<td>72</td>
<td>64</td>
<td>76</td>
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</table>
TruComfort XV & XL20i
HP Sound Level Comparison

<table>
<thead>
<tr>
<th>Heat Pumps</th>
<th>Sound Level dBA</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Tonnage</td>
</tr>
<tr>
<td>XV18/20i (Two Compressor)</td>
<td>2</td>
</tr>
<tr>
<td>XL20i (Two Compressor)</td>
<td>2</td>
</tr>
<tr>
<td>XV18</td>
<td>3</td>
</tr>
<tr>
<td>XV20i</td>
<td>3</td>
</tr>
<tr>
<td>XL20i (Two Compressor)</td>
<td>3</td>
</tr>
<tr>
<td>XV18/20i (Two Compressor)</td>
<td>4</td>
</tr>
<tr>
<td>XL20i (Two Compressor)</td>
<td>4</td>
</tr>
<tr>
<td>XV18/20i (Two Compressor)</td>
<td>5</td>
</tr>
<tr>
<td>XL20i (Two Compressor)</td>
<td>5</td>
</tr>
</tbody>
</table>

TruComfort Systems are 8 to 14 dBA quieter than the XL20i at Minimum Cooling Speed!
TruComfort Systems Start Quietly and Reduce Light Flicker

TruComfort Systems Also Reduce the Required KW and Cost of a Whole House Home Generator

<table>
<thead>
<tr>
<th>Heat Pumps</th>
<th>XV20i Variable Speed</th>
<th>XL20i Two Compressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnage</td>
<td>RLA</td>
<td>LRA</td>
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<tr>
<td>2 Ton</td>
<td>11.5</td>
<td>10.2</td>
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<tr>
<td>3 Ton</td>
<td>18.4</td>
<td>10.2</td>
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<tr>
<td>4 Ton</td>
<td>21.1</td>
<td>12.0</td>
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<tr>
<td>5 Ton</td>
<td>27.5</td>
<td>12.0</td>
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</tbody>
</table>

MASTERING THE BUSINESS OF WINNING
# TruComfort Competitive Weight Comparison (Uncrated)

<table>
<thead>
<tr>
<th>20 SEER Heat Pump</th>
<th>Weight</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>XV20i Variable Speed</td>
<td>196</td>
</tr>
<tr>
<td>XL20i Two Compressor</td>
<td>330</td>
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<tr>
<td>Lennox XP25</td>
<td>277</td>
</tr>
<tr>
<td>Carrier Greenspeed</td>
<td>324</td>
</tr>
</tbody>
</table>

XV20i is 100 to 175 lbs lighter than XL20i and 44 to 128 lbs. lighter than the competition!
TruComfort Systems Start Quietly and Reduce Light Flicker

<table>
<thead>
<tr>
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TruComfort Systems Also Reduce the Required KW and Cost of a Whole House Home Generator
Have you ever been asked…
“What Size Air Conditioner do I need?”

“Dealers use a Manual J Load Calculation to Size Equipment”
Do you need 4 Tons 24 hours a Day?
No, that’s why TruComfort systems were designed with the widest operating range on the market today!

The system that runs the longest before cycling provides the “Most Precise Comfort Control”
The Widest Operating Range Available….“Advantage Trane”

- 25-100 XV18/20i HP: Advantage 10-15%
- 30-100 XV18/20i AC: Advantage 5-10%
- 35-100 XP25 Lennox Heat Pump
- 35-100 XC25 Lennox AC
- 40-100 Carrier Green Speed (HP Only)
TruComfort Technology allows System Speed Changes that are More Precise

Lennox and Carrier vary speed in 1% increments

Trane varies Speed in 1/10 of 1% increments!
TruComfort Air Conditioners can vary output capacity 24 hours a day to precisely, quietly and efficiently match the load on the home.

Air Conditioners
70 \times 10 = 700 speeds!

Max Speed during Day – Minimum Speed at Night
Blair 3 Ton HP Field Trial Site
Tyler, TX July 22, 2013

Hottest time of day
9:36AM
System running continuously
1:30AM
System starts cycling
9:36AM
700 Speeds!!!

Outdoors
96 degrees
83 degrees

Indoors
Indoor Temperature
minimum 71.116
maximum 72.073
standard dev 0.182
median 71.848
average 71.792

Indoor RH%
Blair 3 Ton HP Field Trial-Tyler TX

Even with the XL20 you are Over or Undersized 90% of the time!

50% on 1st Stage

100% on 2nd Stage
Tyler, TX Sep 20, 2013
Storm Field Trial – 4 Ton Heat Pump
ComfortLink II Zoning Installed
TruComfort Systems and ComfortLink II Zoning Can Eliminate Those Hot Summer Nights!

If you like to sleep with a blanket...now you can!
TruComfort 25 to 100% Capacity Allows Improves Temperature Control in Smaller Zones
Storm Field Trial- Sept 10, 2013
11:30AM – 8:16PM
Continuous Run Time

System begins to run Continuous as the Outdoor Temperature increases

System Cycling On and Off Controlling within 0.5 degrees
Zone 1 System running Continuous Controlling within 0.2 degrees
System Cycling On and Off Controlling within 0.5 degrees

Precise Control of Zone Temperatures

Zone 2

Zone 3

Compressor Speed (%)
ComfortLink II Zoning Storm Field Trial - September 10th 2013

...All Zones set for 75 Degrees Cooling

<table>
<thead>
<tr>
<th>Time</th>
<th>Zone 1</th>
<th>Time</th>
<th>Zone 2</th>
<th>Time</th>
<th>Zone 3</th>
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<td>11:00:54 AM</td>
<td>752</td>
<td>11:00:54 AM</td>
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</table>

Now that’s Precise Temperature Control!
XL20i Phase Out

- August will be the last order date for our distributors to order the XL20i AC/HP.
- Now is the time to get all of your technicians certified on the new TruComfort variable speed systems.
Sales Promotions

XV18/XV20i AC / HP First Order Date: April 1st

- Improved Personal Use Program for dealer associates
- $350 dealer rebate extended through June 30th
  - Can be used in conjunction with other programs

Happy Selling!
SALES AND MARKETING MATERIALS
Variable Speed Launch Kits

Customer Support and Literature Ordering Center

Product Information

Launch Kit: TruComfort™ Variable Speed, Dealer Version (Sold individually, minimum of 5)
62-7153-02KIT

Description: Revision in process, Expected March, While Supplies Last
SKU: 62-7153-02KIT
Description: Launch Kit: TruComfort™ Variable Speed, Dealer Version
SKU: 62-7153-02KIT

Order Information

Lead Time: 5 Business Days

Dealer Launch Kits-Non-TCS

- Cover Letter
- 1 CD/DVD (22-8395-01)
- 1 Dealer Brochure (62-7150-02)
- 1 FAQ (62-7151-03)
- 1 Consumer Brochure (72-1305-02)
Variable Speed Training Materials

- The ACT Group, Inc.
  - Strategic Partner Websites - Continued
    - Additional Strategic Partner and Training Allies Websites
      - Wrightsoft
  - Strategic Partner Email Listings
    - Strategic Partner and Training Allies Email Addresses
      - Sales Excellence Training
      - Quality Consulting Group
      - John Abbott

- WideScreen Wisdom™ And Windshield Wisdom™
  - Variable Speed Outdoor Products WideScreen Wisdom
  - Variable Speed Outdoor Products Windshield Wisdom

MASTERING THE BUSINESS OF WINNING
Widescreen Wisdom DVD Video Files Now Available for Download from Comfortsite
Windshield Wisdom Audio Files Now Available for Download from Comfortsite

Variable Speed Outdoor Products Windshield Wisdom

Click on the files below to listen to the different tracks on Variable Speed Air Conditioners and Heat Pumps. These are audio files so they may take a few minutes to load. Make sure your volume is turned up on your computer.

- Introduction to TruComfort
- Benefits and Features
- Zoning and Variable Speed
- XL 950 Controls, Nexia and Variable Speed
- Variable Speed Warranty Return Process
- Frequently Asked Questions
- Conclusion
- Field Trial Testimonies

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With 30-100% operating range on AC and 25-100% on HP it is like having 700 AC or 750 HP units in the backyard that the XL950 can use at any given time of the day to maximize comfort and efficiency!

Full speed and capacity are only needed on the hottest and coolest days of the year.
Quick Hits for Dealers

Trane TruComfort™ Variable Speed

Use this as a tool to recap important information on TruComfort Variable Speed Systems with your employees and customers.

Key Selling Points

- TruComfort systems operate like the cruise control in your car, continually adjusting speed/capacity to maintain your desired indoor comfort levels.
- 100% capacity or speed is only required on the hottest or coldest days.
- TruComfort systems have the widest operating range available on the market.
- The ability to operate at lower output capacity provides sound levels 4 dB quieter than the nearest competitor.
- Moisture removal and air filtration effectiveness also improve with longer run times at reduced capacity.
- Having a TruComfort system is like having 700-750 air conditioners or heat pumps in your back yard that the XL950 thermostat can choose to operate.
- This provides homeowners with the quietest and most economical operation for year round comfort.

Trane Advantages

- 18 and 20 SEER AC/HP families
- 4 dB quieter than nearest competitor
- Widest operating range available
- 700-750 speeds (10X more)
- Liquid cooled Inverter drive
- First with XV1500 variable in 1987
- This is not new technology for Trane

What’s Next

First order Date is April 1
- Are your technicians certified?
- e-Learning course completed?
- Consumer literature on hand?
- RSPs ready to sell TruComfort systems?

Save an average of up to $564 on energy costs each year.*

System efficiency is measured in SEER, (Seasonal Energy Efficiency Ratio) and HSPF (Heating Seasonal Performance Factor). The higher the SEER and HSPF, the greater the system's energy efficiency, and the lower the overall carbon footprint of your household.

* Based on Energy Star's Savings Calculator for a 3-ton 2010/2011 12/20 HP heat pump and programmable thermostat versus the industry standard 13 SEER/10.5 HSPF 3-ton heat pump and standard thermostat in St. Louis, MO.

**Minimum efficiency established by the Department of Energy. Potential energy savings may vary depending on your personal lifestyle, system settings and usage, equipment and ductwork construction and installation of equipment and duct system.

Mastering the Business of Winning
Happy Selling!

Trane TruComfort™ Systems
Our quietest and most precise comfort experience.
Mastering the Business of Winning