

## VRF AND DFS TRAINING BY JOHNSON CONTROLS

Variable refrigerant flow (VRF) as an HVAC solution is growing rapidly in North America, as businesses and homeowners recognize VRF's advantages – long known in Europe and Asia – like delivering just the right heating and cooling to every space, using the bare minimum of energy.

Those are the kind of real-world solutions and savings that your customers count on you to deliver. Gain the knowledge you need to stay at the forefront of HVAC technology with hands-on training at Johnson Controls' state-of-the-art training center near Dallas, TX.

Courses cover everything from designing and selling VRF systems to installation, startup and maintenance processes, and instructors are VRF specialists who'll share their knowledge and answer the tough questions. These courses are intense, hands-on and far from the perfunctory "training" offered free from others.

### About the Johnson Controls Training Center

Our world-class VRF training center offers a comprehensive training program to provide the knowledge and skills necessary to effectively and efficiently deploy VRF technology.

The training center includes a dedicated laboratory to provide hands-on experience with the various systems, components and controls. Videos and webinars supplement classroom learning on specific subjects and refresh and enhance the skills of your sales, design, installation, and service teams.

### All classes are held at the Training Center:

**8304 Esters Blvd. Suite 810  
Irving, Texas 75063**

The Training Center is about 10 minutes from Dallas-Fort Worth airport and near a number of hotels, with special rates at the Holiday Inn Express & Suites Irving DFW Airport North (for reservations, go to <http://www.hiexpress.com>). Be sure to ask for the Johnson Controls discounted rate when making your reservations.

### How to Register

On VRFPPro or UPGnet, go to the UST and Technical Center and click on VRF Training. Select Mini Split or VRF training and enroll. You will be invoiced after you register.

"If you're interested in learning more about the intricacies of variable refrigerant flow (VRF) technology, you may want to book a trip to Dallas."

*ACHR News, November 23, 2015*



## VRF System Design and Engineering

Required to qualify your company to specify and sell VRF products and accessories.

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**Who should attend** Sales professionals (branch, distributor and contractor), architects, consulting engineers, mechanical contractors, reps/agents and other professionals involved in the design and/or selection of VRF systems. Although installation and service technicians are not required to attend this course, the knowledge obtained provides a valuable understanding of the selection process and an enhanced knowledge of overall system design for more effective installation, commissioning and service activities.

**What you'll learn** Acquire the knowledge and practical experience to effectively and efficiently design and select equipment for VRF and ductless systems. This instructor-led class includes extensive hands-on experience with the VRF selection tool to enable you to confidently design, select, and submit specifications for various commercial applications.

**Course Length** 8 hours (1 day)

**Course Prerequisites** None

**Course Fees** \$200 per attendee

## VRF Installation and Commissioning

Required for mechanical contractors that want to install VRF equipment as well as receive the extended warranty benefits. Installing mechanical contractors are required to have at least one individual from their company attend the installation and commissioning training program. To maintain extended warranty benefits, that individual must attend the service and troubleshooting program within 12 months of completing the installation and commissioning training.

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**Who should attend** Mechanical contractors, installation mechanics, building maintenance personnel, project managers (branch and distributor staff supporting contractors with installation and commissioning), and controls and service technicians.

**What you'll learn** Learn the proper procedures and techniques to install, start up, test and commission VRF systems in this instructor-led class that includes hands-on experience. You'll learn to configure control systems and use options that provide maximum performance and efficiency from the system, proper piping configurations and best practices for in-the-field applications and how to safely and effectively pressure test, evacuate, charge, and start up the system.

**Course Length** 16 hours (2 days)

**Course Prerequisites** None

**Course Fees** \$500 per attendee

## VRF Service and Troubleshooting

To maintain extended warranty benefits, the individual who attended installation and commissioning training must also attend the service and troubleshooting program within 12 months.

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**Who should attend** VRF technicians, mechanical contractors, service technicians, installation technicians, building maintenance personnel, controls technicians and any personnel that will be involved with servicing, troubleshooting and maintaining VRF products.

**What you'll learn** Learn proper procedures and techniques for servicing and troubleshooting VRF systems in this instructor-led class that includes extensive hands-on experience with fully functional VRF lab equipment. Learn to use the seven-segment display and the VRF service checker tool on live equipment to minimize the time necessary to diagnose and repair equipment in the field, and understand the various maintenance procedures and maintenance scheduling considerations for efficient system operation and system longevity.

**Course Length** 16 hours (2 days)

**Course Prerequisites** The participant, or the participant's employer, must provide a VRF Installation and Commissioning certificate before attending the VRF Service and Troubleshooting course.

The certification can be emailed to: [BE-VRFTtraining@jci.com](mailto:BE-VRFTtraining@jci.com).

**Course Fees** \$500 per attendee



## Duct-Free Mini Split System Installation & Startup Training

In order to receive extended warranty benefits, mechanical contractors are required to have a minimum of one fully trained DFS technician on staff who has successfully completed the installation and startup training course. Attendees should have basic knowledge of electrical safety procedures.

**Who should attend** VRF and ductless service technicians, mechanical contractors, installation technicians, building maintenance personnel, project managers (branch and distributor staff supporting contractors with installation and commissioning), and controls and service technicians.

**What you'll learn** Acquire comprehensive knowledge and learn the proper procedures and techniques to install and start up duct-free (DFS) mini-split systems in this instructor-led class that includes hands-on experience. Learn to accurately and comprehensively inspect an installation prior to start-up to minimize obstacles and ensure timelines are not jeopardized, and get hands-on experience configuring control systems and learn to use options that provide maximum performance and efficiency from the system.

**Course Length** 8 hours (1 day)

**Course Prerequisites** None

**Course Fees** \$250 per attendee



FOR MORE INFORMATION CONTACT [BE-VRFTRAINING@JCI.COM](mailto:BE-VRFTRAINING@JCI.COM)