

ENGINEERING  
TOMORROW

*Danfoss*

North America Course Catalog 2024

# Danfoss Power Solutions Training Learning for Growth





# Danfoss Power Solutions Product Training Program

Welcome to the Danfoss Power Solutions training program. We're excited to work with you to help grow your in-depth understanding of Danfoss products and solutions.

There is power in sharing knowledge — it empowers our team, strengthens relationships, and can be used as a powerful sales tool.

Our training program has grown over the years to meet the needs of our sales partners. We have designed these courses to deepen your knowledge and confidence in our product line which, in turn, can help you meet your business goals.

This catalog offers a large variety of training opportunities. We offer training solutions ranging from entry-level online modules to professional, hands-on classes, where you will have the chance to work on real systems and machines.

Save time and effort! Start at the level that best matches your competency and work your way up to your educational goals! Plus, we've already laid out learning paths to make building your knowledge base easier.

Finally, we also invite you to visit the Danfoss headquarters in Nordborg and Ames, and tour one of our Application Development Centers. We would love to meet you in person and further strengthen our partnership.

# Table of Contents



## Technical Training Program

Technical Trainings Roadmap.....	5
----------------------------------	---



## Product and Application Courses

### AUTONOMY

Autonomy Training Program .....	10
Autonomous Control Library - Level 400.....	11

### CONTROLS

Controls Training Program .....	13
Plus+1® GUIDE Fundamentals - Level 300 .....	15
Plus+1® GUIDE Advanced - Level 400 .....	16
Plus+1® GUIDE Functional Safety - Level 400 .....	17
Plus+1® GUIDE Expert - Level 500 .....	18
Plus+1® GUIDE - How to Register for Software Training.....	19
PVG Application Training - Level 300.....	20

### EDITRON

Editron Training Program.....	22
-------------------------------	----

### FLUID CONVEYANCE

Fluid Conveyance Training Program .....	24
Aeroquip Fluid Conveying Rubber Hydraulic Hose and Fittings (RHHF) - Level 200 .....	25
Weatherhead Fluid Conveying Rubber Hydraulic Hose and Fittings (RHHF) - Level 200 .....	26
Fuel, A/C, Thermoplastic and Specialty (FACTS) - Level 200 .....	27
Connectors - Level 200.....	28
Hose Routing, Installation & Failure Analysis - Level 300 .....	29
Fluid Conveyance Assembly Equipment Workshop - Level 300 .....	30

### HYDROSTATICS

Hydrostatics Training Program .....	32
-------------------------------------	----

### INDUSTRIAL

Industrial Training Program .....	34
-----------------------------------	----

# Table of Contents



## Product and Application Courses (continued)

### REVIEW OF PRODUCTS AND APPLICATIONS (RAP)

RAP Training Program .....	<a href="#">36</a>
Closed Circuit RAP - Level 300 .....	<a href="#">37</a>
Open Circuit RAP - Level 300 .....	<a href="#">38</a>
Connect and Control Solutions - Level 300 .....	<a href="#">39</a>
Advanced Closed Circuit RAP - Level 400 .....	<a href="#">40</a>
Advanced Open Circuit RAP - Level 400 .....	<a href="#">41</a>

### SYSTEM AND APPLICATIONS

System and Applications Training Program .....	<a href="#">43</a>
--	--------------------

### WORK FUNCTION

Work Function Training Program .....	<a href="#">45</a>
Product Fundamentals - Gears - Level 300 .....	<a href="#">46</a>
Product Fundamentals - Steering Solutions - Level 300 .....	<a href="#">47</a>
Steering Solutions Application Training - Level 400 .....	<a href="#">48</a>



## Service School

Service School - Level 500 .....	<a href="#">50</a>
----------------------------------	--------------------



## Launch Webinars

Launch Webinars .....	<a href="#">52</a>
-----------------------	--------------------



## Help and support

How to Access Danfoss Learning from Danfoss Website .....	<a href="#">54</a>
Terms and Conditions .....	<a href="#">55</a>



# Technical trainings roadmap

Our training roadmap is structured with five levels of increasing complexity, offered in various formats.

Each training level was designed with a specific target audience in mind — meaning those taking the courses can start at the level most appropriate for them, depending on their current knowledge level and competencies. Each level is a pre-requisite to the one that follows. If possible, it's recommended to take the courses in the right order.

The goal of these technical training courses is to help Danfoss Power Solutions sales partners grow and achieve their goals.

The legacy courses have been integrated into the training materials to offer a comprehensive overview of the updated Danfoss Power Solutions product portfolio.

**Choose the course that works best for you and start your journey into Danfoss Power Solutions technical training.**

## Level 100



SELF-STUDY



VIRTUAL TRAINING

Target audience:

**All Distributors**

Learning goal:

**Staying informed about new products and options and learning how to do business with Danfoss.**

## Level 200



VIRTUAL TRAINING



SELF-STUDY



CLASSROOM TRAINING

Target audience:

**Distributor Sales**

Learning goal:

**Understanding the product offering in detail and using that knowledge to identify opportunities.**

## Level 300



VIRTUAL TRAINING

Target audience:

**Distributor Frontline Sales**

Learning goal:

**Using learned qualities, benefits, and value proposition of Danfoss products to identify and present the best solution for the customer.**

## Level 400



CLASSROOM TRAINING

Target audience:

**Distributor Technical Sales**

Learning goal:

**Designing advanced hydraulic systems to offer the best Danfoss system solutions for the customer.**

## Level 500



CLASSROOM TRAINING

Target audience:

**Authorized Service Partners**

Learning goal:

**Diagnose/troubleshoot faulty machines and components.**



# PRODUCT AND APPLICATION COURSES

# Virtual and On-Site Classroom Training

## **Virtual Classroom - Instructor-Led Courses (VILT)**

Virtual instructor-led (VILT) courses are delivered electronically (live) each day. The typical daily session is four-hours in length (unless otherwise specified) with breaks in between topics. Each session incorporates live demonstrations of product materials and instructor interaction via the internet, allowing for an up-close and personal learning experience that is second to none. Participants will interact with instructors and other attendees while engaging in classroom activities and group discussions in real time, creating a personalized learning environment, much like you would experience if you were physically in the classroom. Academic testing is accomplished via the internet, utilizing secure professional web-based software. Once linked to the internet, and using nothing more than your computer, web-camera and microphone, you can join our virtual classroom from the convenience of your computer regardless of location.

Requirements to attend the virtual classroom include: valid email address, personal computer, access to the internet, web camera and phone line or headset to be used with a computer. Course materials will be shipped prior to start of class. Students will be required to attend and participate in all sessions, demonstrate proficiency in the course topics, and successfully complete an online exam with a score of 70% or higher in order to receive a certificate of completion. Students who do not take the exam, or who score lower than a 70%, will not receive a certificate.

## **On-Site Classroom - Instructor-Led Courses (ILT)**

Our on-site instructor-led (ILT) courses range anywhere from 2 days to 2 weeks, depending on the class format. Participants will have hands-on exercises with products, simulators and equipment. Our state-of-the-art training facility is headquartered in Maumee, OH (Toledo area) and can accommodate all training offerings. Students will be required to attend and participate in all sessions, demonstrate proficiency in the course topics, and successfully complete a written exam with a score of 70% or higher in order to receive a certificate of completion. Students who do not take the exam, or who score lower than a 70%, will not receive a certificate.

Please contact [hydraulicstraining@danfoss.com](mailto:hydraulicstraining@danfoss.com) for the most up-to-date schedules. Class schedules are subject to change.





# AUTONOMY

## Autonomy Training Program

# Autonomous Control Library

The Autonomy Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
Inside Sales	100	Yes	AV101	<a href="#">Introduction to Autonomy Level and Layers</a>
			AV102	<a href="#">Introduction to the Autonomous Control Library</a>
			AV103	<a href="#">Introduction to the XM100</a>
	200	Yes	AV201	<a href="#">Value Propositions and Applications</a>
			AV202	<a href="#">Introduction to the Perception Layer and Danfoss Partners</a>
			AV203	<a href="#">Types of Perception Sensors</a>
			AV204	<a href="#">Types of Positioning Sensors</a>
Outside Sales	400		Autonomous Control Library	

*\*Must be logged in to your [Danfoss Learning](#) account to register*

# Autonomy Training Program

# Autonomous Control Library

## Level 400

### Learning Goals:

This course covers the Autonomous Control Library function blocks and how to integrate them into your application.

Participants will complete the training with an understanding of the elements within the Autonomous Control Library. Through a hands-on experience, the participants will be able to understand how to integrate the blocks into their application using PLUS+1® GUIDE.

### Topics Covered:

- Products - XM100, Autonomous Control Library
- Autonomy subsystems
- Coordinate systems
- State machines
- Application considerations
- Setting up a LiDAR
- Diagnostics and troubleshooting
- Breakout sessions with hands-on applications: positioning, navigating, perception and obstacle detection

### Class Offerings:

---

To be announced

---

*\*Must be logged in to your [Danfoss Learning](#) account to register*



### Participants

Open to Danfoss sales and technical support engineers and controls system engineers



### Pre-requisites

PLUS+1® GUIDE Fundamentals; PLUS+1® GUIDE Advanced training ACL 1.0/2.0; YouTube video; 3+ years of experience programming applications in PLUS+1® GUIDE



### Location

On-site classroom (Ames, IA)



### Duration

To be determined



### Tuition

\$2,000



# CONTROLS

# Controls Training Program

## Controls

The Controls Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>CONNECT AND CONTROL SOLUTIONS (CCS)</b>				
<b>Inside Sales</b>	100	Yes	CCS101	<a href="#">Introduction to Connect and Control Solutions Business Unit</a>
			CCS102	<a href="#">Introduction to CCS Product Overview</a>
			CCS103	<a href="#">Controllers and I/O Modules</a>
			CCS104	<a href="#">Position Controls and Sensors</a>
			CCS105	<a href="#">Displays</a>
			CCS106	<a href="#">Joysticks</a>
			CCS109	<a href="#">Legacy Products</a>
<b>Outside Sales</b>	300	Yes	RAP303	<a href="#">Connect and Control Solutions RAP</a>
<b>Software Programmers</b>	100	Yes	CCS108	<a href="#">PLUS+1® GUIDE and Service Tool</a>
			TBD	PLUS+1® GUIDE Yearly Update (required for renewing points)
	300	Yes	PO301	<a href="#">PLUS+1® GUIDE Fundamentals</a>
	400	Yes	PO401	<a href="#">PLUS+1® GUIDE Advanced</a>
		No	PO403	<a href="#">PLUS+1® GUIDE Functional Safety</a>
	500	No		PLUS+1® GUIDE Expert
<b>OPEN CIRCUIT PUMPS (OCP)</b>				
<b>Inside Sales</b>	100	Yes	OCP101	<a href="#">Introduction to Open Circuit Pumps Business Unit</a>
			OCP102	<a href="#">Intro to Open Circuit Pumps Controls and Applications</a>
			OCP103	Legacy Eaton Open Circuit Piston Pumps
			OCP104	<a href="#">Series 45 ETL Tuning Overview</a>
			OCP105	<a href="#">Introduction to Series 45</a>
			OCP106	<a href="#">Overview of Series 45 Controls</a>

\*Must be logged in to your [Danfoss Learning](#) account to register



# Controls Training Program

## Controls

The Controls Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>OPEN CIRCUIT PUMPS (OCP) (continued)</b>				
Inside Sales	200	Yes	OCP201	<a href="#">Piston Pumps Closed Circuit</a>
			OCP202	<a href="#">Piston Pumps Open Circuit</a>
			OCP203	<a href="#">Series 45 ETL Overview</a>
<b>SPOOL VALVE SOLUTIONS (SVS)</b>				
Inside Sales	100		SVS101	<a href="#">Introduction to SVS Business Unit</a>
			SVS102	<a href="#">Introduction to SVS Product Overview</a>
			SVS103	<a href="#">PVG 32 Specification Sheet</a>
			SVS104	<a href="#">PVG 16 - 32 - 120 Basics</a>
			SVS106	<a href="#">PVG 100 Basics</a>
			SVS107	<a href="#">PVE Control Basics</a>
			SVS108	<a href="#">Introduction to CAN bus</a>
			SVS302	<a href="#">PVG Application Training RAP</a>
Outside Sales	300			

\*Must be logged in to your [Danfoss Learning](#) account to register

# Controls Training Program

## PLUS+1<sup>®</sup> GUIDE Fundamentals

### Level 300 (PO301)

#### Learning Goals:

This training focuses on best practices for using the basic features of PLUS+1<sup>®</sup> GUIDE and Service Tool.

Upon completion of the training, participants will be able to write, compile, and run a simple application before the end of the day. The first two days will concentrate on the basic use and navigation of the programming environment.

#### Topics Covered:

- Introduction to PLUS+1<sup>®</sup> GUIDE
- Creating a basic page/basic page interface editor
- Basic application: pressure alarm
- PLUS+1<sup>®</sup> Update Center basics
- Function Block Libraries and compliance blocks
- PLUS+1<sup>®</sup> Service Tool basics
- Basic application: dual path application
- CAN in PLUS+1<sup>®</sup> GUIDE
- IEC 61131-3 introduction
- Display programming
- Tips and tricks

#### Class Offerings:

[Check Danfoss Learning for schedules and to register](#)

#### Ordering Information:

Part #	Training type
10101469	Face-to-face (in-person)
11265008	Webinar (online)
11265020	Self-study (self-paced)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to anyone who may need to understand, evaluate or use PLUS+1 GUIDE<sup>®</sup>, Service Tool, and/or Update Center



#### Pre-requisites

None



#### Location

Check Danfoss Learning



#### Duration

Check Danfoss Learning



#### Tuition

Contact your Danfoss Sales Representative

<http://plus1helpdesk.danfoss.com>

# Controls Training Program

## PLUS+1<sup>®</sup> GUIDE Advanced

### Level 400 (PO401)

#### Learning Goals:

This training focuses on best practices for using more of the advanced features of PLUS+1<sup>®</sup> GUIDE and Service Tool. The training will also allow the participant to learn about and discuss the advanced features of PLUS+1<sup>®</sup> Software.

Upon completion of the training, participants will be able to identify and use some of the more advanced features in PLUS+1<sup>®</sup> Software.

#### Topics Covered:

- Basics refresher
- Arrays and repeat units
- Read-only parameters
- CAN communication in PLUS+1<sup>®</sup>
- Application logging
- Intellectual property protection
- IEC 61131-3 programming language
- Display programming
- Service Tool - advanced screens
- Tips and tricks

#### Class Offerings:

[Check Danfoss Learning for schedule and to register](#)

#### Ordering Information:

Part #	Training type
11076423	Face-to-face (in-person)
11265009	Webinar (online)
11265021	Self-study (self-paced)



#### Participants

Open to anyone who may need to understand, evaluate or use or teach others to use PLUS+1<sup>®</sup> Software at a working level of understanding



#### Pre-requisites

PLUS+1<sup>®</sup> GUIDE Fundamentals



#### Location

Check Danfoss Learning



#### Duration

Check Danfoss Learning



#### Tuition

Contact your Danfoss Sales Representative

<http://plus1helpdesk.danfoss.com>

*\*Must be logged in to your [Danfoss Learning](#) account to register*

# Controls Training Program

## PLUS+1<sup>®</sup> GUIDE Functional Safety

### Level 400 (PO403)

#### **Learning Goals:**

This training focuses on best practices for using the PLUS+1<sup>®</sup> GUIDE and Service Tool in functional safety software. In addition, participants will learn how to use the programming equipment in GUIDE for quality assurance and functional safety.

Upon completion of the training, participants will be able to identify and explain functional safety features in PLUS+1<sup>®</sup> software and implement those features into a basic application.

#### **Topics Covered:**

- V model and PLUS+1<sup>®</sup> GUIDE
- Safety toolbox in PLUS+1<sup>®</sup> GUIDE
- Version control
- Traceability
- Test tool and debugger
- SIL2 compilation
- PLUS+1<sup>®</sup> programmable safety controllers, SC and XL controllers
- Best practice for functional safety programs on PLUS+1<sup>®</sup> controllers
- PLUS+1<sup>®</sup> GUIDE blocks with safety functions
- CAN safety functions in PLUS+1<sup>®</sup> GUIDE, J1939-76.1

#### **Class Offerings:**

[Check Danfoss Learning for schedules and to register](#)

#### **Ordering Information:**

<u>Part #</u>	<u>Training type</u>
11133505	Face-to-face (in-person)
11265011	Webinar (online)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### **Participants**

Open to anyone who may need to understand, evaluate or use or teach others to use the functional safety features in PLUS+1<sup>®</sup> Software



#### **Pre-requisites**

PLUS+1<sup>®</sup> GUIDE Fundamentals and basic functional safety training in some of the major safety standards like IEC 61508



#### **Location**

Check Danfoss Learning



#### **Duration**

Check Danfoss Learning



#### **Tuition**

Contact your Danfoss Sales Representative

<http://plus1helpdesk.danfoss.com>

# Controls Training Program

## PLUS+1<sup>®</sup> GUIDE Expert

### Level 500

#### Learning Goals:

This training focuses on providing expert skills to utilize PLUS+1<sup>®</sup> software for exactly your needs. Anyone who has taken all three other PLUS+1<sup>®</sup> trainings are eligible to register for this class and learn how to master the more advanced and newest features in the PLUS+1<sup>®</sup> software toolbelt.

#### Topics Covered:

- Basics refresher
- Newest PLUS+1<sup>®</sup> software features
- Custom topics
- Discuss participant's personal PLUS+1<sup>®</sup> software projects
- Hands-on GUIDE coding
- Value selling GUIDE and service tool
- Tips and tricks

#### Class Offerings:

Check Danfoss Learning for schedules and to register

#### Ordering Information:

Part #	Training type
11265013	Face-to-face (in-person)



#### Participants

Open to anyone who may need to understand, evaluate or use or teach others to use PLUS+1<sup>®</sup> Software at an expert level of understanding



#### Pre-requisites

PLUS+1<sup>®</sup> GUIDE Fundamentals  
PLUS+1<sup>®</sup> GUIDE Advanced  
PLUS+1<sup>®</sup> GUIDE Functional  
Safety



#### Location

Check Danfoss Learning



#### Duration

Check Danfoss Learning



#### Tuition

Contact your Danfoss Sales Representative

<http://plus1helpdesk.danfoss.com>

*\*Must be logged in to your [Danfoss Learning](#) account to register*



# Controls Training Program

## How to Register for PLUS+1® Software Training

1. Use the link [PLUS+1 Software - Learn how to improve your applications](https://www.danfoss.com/en/products/dps/software/software-and-tools/plus1-software/#tab-training) and click Browse our PLUS+1® training catalog, to see when the next available PLUS+1® training is scheduled!  
(<https://www.danfoss.com/en/products/dps/software/software-and-tools/plus1-software/#tab-training>)
- 2a. For face-to-face trainings, be sure to check the location before completing enrollment.



- 2b. For on-line (webinar) trainings, be sure to check the time zone before completing enrollment.



- 2c. For self-study, do not register (enroll) for the training, see 5.
3. Note the start date of the training.
4. When you register for the training, you will need to add your Danfoss credentials to access your MyDanfoss account.
5. Contact your Danfoss sales representative, or use the same channels that you purchase other Danfoss products to place an order, and submit a PO for the training.
6. Part number and start date for the training will be needed for the order.
7. The PLUS+1® GUIDE trainer will contact you with information needed for the training when the order is visible in Danfoss business system.

As an alternative to step 1, you can...

- Alt 1a. Log in to Danfoss Learning from Partnerlink.
- Alt 1b. Log in to Danfoss Learning from <http://learning.Danfoss.com> with your DIP account (or create a new account and log in).
- Alt 2. Under the POWER SOLUTIONS tab, choose software and then PLUS+1® SOFTWARE.

# Controls Training Program

## PVG Application Training

### Level 300 (SVS302)

#### Learning Goals:

This course provides basics about design and function of PVG valve products. It covers services we offer, typical applications, product specifications, and product options.

Upon completion of this class, students will:

- Ask questions to develop an understanding of customer applications
- Identify features and limitations of an existing solution
- Specify optimized PVG valve group configuration alternatives
- Explain the benefits of proposed PVG solutions to customer decision makers

#### Topics Covered:

Products - there will be discussions of what products and services we have to offer, typical applications, product specifications, options, design features and benefits for the following:

- PVG 16
- PVG 32
- PVG 100
- PVG spec sheet/pricing tool
- Product Selection Tool

Applications - in-depth discussions will be led by PVG applications engineers on various topics including:

- Module alternatives
- Hardware and feature combinations
- Application examples
- Watch outs
- Specification sheet exercises

#### Class Offerings:

---

April 16-18, 2024      8:00 AM - 5:00 PM (EDT)      [To register](#)

---

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

Open Circuit RAP (Level 200)



#### Location

On-site classroom (Easley, SC)



#### Duration

3 days, 27 hours



#### Tuition

\$950



# EDITRON

# Editron Training Program

## Editron

The Editron Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>EDITRON</b>				
<b>Inside Sales</b>	100	Yes	EDI102	<a href="#">Basics of Electrical Engineering</a>
			EDI103	<a href="#">Introduction to Editron Products</a>
			EDI104	<a href="#">Hybrid and Electric Systems</a>
			EDI105	<a href="#">Power Electronics In-Depth</a>
			EDI106	<a href="#">Electric Machines In-Depth</a>

*\*Must be logged in to your [Danfoss Learning](#) account to register*



# FLUID CONVEYANCE



# Fluid Conveyance Training Program

## Fluid Conveyance

The Fluid Conveyance Training Program courses have been restructured for 2024 and are now being offered by business unit. Each level 200/300 course is instructor-led, either virtually or on-site. Users must pass an exam at the end of the Level 200/300 courses with a score of 70% or higher in order to receive a certification.

Role	Level	PPP Required?	Course ID	Course Title
<b>FLUID CONVEYANCE</b>				
<b>Inside Sales/ Technical Reps</b>	100	No	FC116	<a href="#">Fluid Conveyance Overview Podcast</a> <a href="#">The Anatomy of a Hydraulic Hose</a>
		Yes	FC108	<a href="#">Fluid Conveyance Product Overview</a>
	200		FC216	<a href="#">Aeroquip Fluid Conveying Rubber Hydraulic Hose and Fittings (RHFF)</a> (Authorized Aeroquip Distributors only)
		Yes	FC219	<a href="#">Weatherhead Fluid Conveying Rubber Hydraulic Hose and Fittings (RHFF)</a> (Authorized Weatherhead Distributors only)
			FC218	<a href="#">Fuel, A/C, Thermoplastic &amp; Specialty (FACTS)</a>
			FC217	<a href="#">Connectors</a>
			FC302	<a href="#">Fluid Conveyance Assembly Equipment Workshop</a>
<b>Outside Sales/ Technical Reps</b>	300	Yes	FC303	<a href="#">Hose Routing, Installation &amp; Failure Analysis</a>

\*Must be logged in to your [Danfoss Learning](#) account to register

2024 COURSE TITLE	REPLACES	FULFILLED BY: (completed 1/1/18-12/31/23)
Weatherhead Fluid Conveying Rubber Hydraulic Hose and Fittings (RHFF)	Weatherhead Fluid Conveying Products School (Level 200)	<ul style="list-style-type: none"> <li>Weatherhead Fluid Conveying Products School - Level 200</li> <li>Fluid Conveying Products School - Level 200</li> </ul>
Aeroquip Fluid Conveying Rubber Hydraulic Hose and Fittings (RHFF)	Aeroquip Fluid Conveying Products School (Level 200)	<ul style="list-style-type: none"> <li>Aeroquip Fluid Conveying Products School - Level 200</li> <li>Fluid Conveying Products School - Level 200</li> </ul>
Fuel, A/C, Thermoplastic & Specialty (FACTS)	Aeroquip/Weatherhead Fluid Conveying Products School (Level 200)	<ul style="list-style-type: none"> <li>Aeroquip Fluid Conveying Products School - Level 200</li> <li>Weatherhead Fluid Conveying Products School - Level 200</li> <li>Fluid Conveying Products School - Level 200</li> </ul>
Connectors	Aeroquip/Weatherhead Fluid Conveying Products School (Level 200)	<ul style="list-style-type: none"> <li>Aeroquip Fluid Conveying Products School - Level 200</li> <li>Weatherhead Fluid Conveying Products School - Level 200</li> <li>Fluid Conveying Products School - Level 200</li> </ul>
Fluid Conveyance Assembly Equipment Workshop		<ul style="list-style-type: none"> <li>Fluid Conveyance Assembly Equipment Workshop</li> </ul>
Hose Routing, Installation & Failure Analysis (RIFA)	Fluid Conveying Products School (Level 300-400)	<ul style="list-style-type: none"> <li>Aeroquip/Weatherhead Fluid Conveying Products School (Level 300-400)</li> <li>Fluid Conveying Products School - Level 300</li> <li>Fluid Conveying Products School - Level 400</li> </ul>

# Fluid Conveyance Training Program

## Aeroquip Fluid Conveying Rubber Hydraulic Hose and Fittings (RHHF)

### Level 200 (FC216)

#### Learning Goals:

This 2-day, 12-hour course utilizes a Virtual Classroom via live remote connection with an instructor. Course attendance could be satisfied at the workplace, in a group setting, or accomplished via a home office.

This course incorporates training on the Hydraulic Hose and Fitting Core for Aeroquip brand fluid conveying products and associated support equipment. Focus areas include core product overviews, product literature navigation, assembly equipment, and proper hydraulic hose assembly.

#### Topics Covered:

- Rubber hydraulics product overview
- Hose selection chart
- S-T-A-M-P-E-D and hose terminology
- Glossary of terms
- Core premium and core standard hoses
- Braided and spiral hose fittings
- Hose accessories
- Assembly machines and tooling

#### Class Offerings:

August 19-20, 2024

September 23-24, 2024

10:00 AM - 4:00 PM

[To register](#)

October 29-30, 2024

November 25-26, 2024

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss employees and distributors authorized to sell Aeroquip product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)



#### Location

Virtual Classroom



#### Duration

2 days, 6 hours/day



#### Tuition

\$420

# Fluid Conveyance Training Program

## Weatherhead Fluid Conveying Rubber Hydraulic Hose and Fittings (RHHF)

### Level 200 (FC219)

#### Learning Goals:

This 2-day, 12-hour course utilizes a Virtual Classroom via live remote connection with an instructor. Course attendance could be satisfied at the workplace, in a group setting, or accomplished via a home office.

This course incorporates training on the Hydraulic Hose and Fitting Core for Weatherhead brand fluid conveying products and associated support equipment. Focus areas include core product overviews, product literature navigation, assembly equipment, and proper hydraulic hose assembly.

#### Topics Covered:

- Rubber hydraulics product overview
- Hose selection chart
- S-T-A-M-P-E-D and hose terminology
- Glossary of terms
- Core premium and core standard hoses
- Braided and spiral hose fittings
- Hose accessories
- Assembly machines and tooling

#### Class Offerings:

August 21-22, 2024

October 14-15, 2024      10:00 AM - 4:00 PM      [To register](#)

November 18-19, 2024

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss employees and distributors authorized to sell Weatherhead product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)



#### Location

Virtual Classroom



#### Duration

2 days, 6 hours/day



#### Tuition

\$420

# Fluid Conveyance Training Program

## Fuel, A/C, Thermoplastic and Specialty (FACTS)

### Level 200 (FC218)

#### Learning Goals:

This 1-day, 6-hour course utilizes a Virtual Classroom and is delivered electronically. Course attendance could be satisfied at the workplace, in a group setting, or accomplished via a home office.

This course is open to Danfoss employees and distributors authorized to sell the Danfoss Fluid Conveyance product line. It incorporates training on Thermoplastic and PTFE products, Air Conditioning, Airbrake and Danfoss Fuel & Engine.

#### Topics Covered:

- Synflex Optimum hose and fittings
- PTFE hose and fittings
- A/C and refrigeration hose and fittings
- Socketless hose and fittings
- Airbrake hose and fittings
- Fuel and engine hose and fittings

#### Class Offerings:

August 29, 2024

September 16, 2024

10:00 AM - 4:00 PM

[To register](#)

October 17, 2024

November 21, 2024

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss employees and distributors authorized to sell Danfoss Fluid Conveyance product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)

Level 200 (RHHF)



#### Location

Virtual Classroom



#### Duration

1 day, 6 hours/day



#### Tuition

\$220

# Fluid Conveyance Training Program

## Connectors

### Level 200 (FC217)

#### Learning Goals:

This 2-day, 12-hour course utilizes a Virtual Classroom and is delivered electronically. Course attendance could be satisfied at the workplace, in a group setting, or accomplished via a home office.

This course is open to Danfoss employees and distributors authorized to sell the Danfoss Fluid Conveyance product line. It incorporates training on thread identification of fluid connectors, steel adapters, brass connectors, Quick Disconnect couplings, swivels, Flexmaster, FLOCS, and tube fittings.

#### Topics Covered:

- Threaded connection identification
- Steel adapters
- Quick Disconnect couplings
- Brass products
- FLOCS
- Flexmaster
- Swivels
- Tube connections

#### Class Offerings:

August 26-27, 2024

October 8-9, 2024      10:00 AM - 4:00 PM      [To register](#)

November 4-5, 2024

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss employees and distributors authorized to sell Danfoss Fluid Conveyance product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)

Level 200 (RHHF)



#### Location

Virtual Classroom



#### Duration

2 days, 6 hours/day



#### Tuition

\$430

# Fluid Conveyance Training Program

## Hose Routing, Installation & Failure Analysis

### Level 300 (FC303)

#### Learning Goals:

This 1-day, 6-hour course utilizes a Virtual Classroom and is delivered electronically. Course attendance could be satisfied at the workplace, in a group setting, or accomplished via a home office.

#### Topics Covered:

- Tube bending and installation
- Lifesaver brazing techniques
- Tightening threaded connectors
- Hose routing and installation
- Analyzing hose failures
- Hose routing exercise

#### Class Offerings:

---

September 18, 2024	10:00 AM - 4:00 PM	<a href="#">To register</a>
December 5, 2024		

---

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss employees and distributors authorized to sell Danfoss Fluid Conveyance product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)

Level 200 (RHHF)



#### Location

Virtual Classroom



#### Duration

1 day, 6 hours/day



#### Tuition

\$255

# Fluid Conveyance Training Program

## Fluid Conveyance Assembly Equipment Workshop

### Level 300 (FC302)

#### Learning Goals:

The (on-site classroom) Fluid Conveyance Assembly Equipment Workshop course is open to Danfoss employees and distributors authorized to sell the Danfoss Fluid Conveyance product line. It will incorporate live demonstrations, product materials, and instructor interaction allowing for an up-close and personal learning experience that is second to none.

Danfoss crimp machines boast a broad crimp capability. In this training, we demonstrate ease of use that is sure to please most hose assemblers. From portable, to table-top, to stand-alone models, we will cover them all.

Come and get a chance to cut, clean and build hose assemblies using Danfoss' latest hose assembly equipment.

#### Topics Covered:

- Hose saws and blades (ET9000, ET9100, ET9200, ET9300)
- Positive stop crimp machines (ET1000, T-420, ET4001)
- Variable crimp machines (ET1187, FT1380, FT1380e, FT1390, ET5050)
- Reusable assembly machines (FT1013, FT1097)
- Skive tool and die cage repair exercise

#### Class Offerings:

December 10-11, 2024

8:00 AM - 4:00 PM

[To register](#)



#### Participants

Open to Danfoss employees and distributors authorized to sell Danfoss Fluid Conveyance product line



#### Pre-requisites

Fluid Conveyance Product Overview (Level 100)

Level 200 (RHFF)



#### Location

On-site classroom (Maumee, OH)



#### Duration

2 days, 8 hours/day



#### Tuition

\$580

*\*Must be logged in to your [Danfoss Learning](#) account to register*



# HYDROSTATICS



# Hydrostatics Training Program

## Hydrostatics

The Hydrostatics Training Program Courses are a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>HYDROSTATICS</b>				
<b>Inside Sales</b>	100	Yes	HP101	<a href="#">Intro to High Power Closed Circuit Business Unit</a>
			HP102	<a href="#">Intro to High Power Closed Circuit Product Overview</a>
			HP103	<a href="#">H1 Pumps</a>
			HP104	<a href="#">Series 90 Pumps and Motors</a>
			HP105	<a href="#">H1B Motors</a>
			HP106	<a href="#">Introduction to High Power Base Model Programs</a>
			MP101	<a href="#">Introduction to Medium Power Business Unit</a>
			MPCC102	<a href="#">Introduction to Direct Displacement Pumps</a>
			MPCC103	<a href="#">Introduction to Medium Power Servo Pumps</a>
			MPCC104	<a href="#">Introduction to Medium Power Piston Motors</a>
			MPCC105	<a href="#">Introduction to MP1 Servo Pumps</a>
			MPCC106	<a href="#">Introduction to MP1 Motors</a>
			MPOC103	<a href="#">Medium Power Legacy Products</a>
<b>Inside Sales</b>	200	Yes	HY202	<a href="#">Intro to Tools (P Cubed, Kit Life)</a>
			HY204	<a href="#">Zero Degree Motors</a>
			HP201	<a href="#">Bent Axis Motor Controls - Proportional</a>
			HP202	<a href="#">Bent Axis Motor Controls - 2 Position</a>
			HP203	<a href="#">Bent Axis Motor Controls - Pressure Compensated</a>

*\*Must be logged in to your [Danfoss Learning](#) account to register*



# INDUSTRIAL

# Industrial Training Program

## Industrial

The Industrial Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>INDUSTRIAL</b>				
	100	Yes	IND101	<a href="#">Introduction to Airflex Clutch and Brakes</a>
			IND102	Introduction to Industrial Cylinders**
			IND103	Introduction to Industrial Valves**
			IND106	<a href="#">Cylinder Terminology Study Course</a>
			IND107	<a href="#">Introduction to Industrial Pumps</a>
			IND111	<a href="#">Introduction to ProFX v2 software for Axis Pro Valves</a>
			IND112	<a href="#">Introduction to Proportional Valves</a>
			IND113	Introduction to Slip-in Cartridge Valves**
			IND114	Introduction to Vane Pumps and Motors**
			IND115	Introduction to PVM Piston Pumps**
			IND116	Introduction to Hydrokraft Pumps and Motors**
<b>Inside Sales</b>	200	Yes	IND117	Introduction to Dowmax Motors**
			IND118	Introduction to Hydraulic Power Units (HPU)**
			IND212	<a href="#">Directional Control Valves Overview</a>
			IND221	Airflex Clutch and Brakes Portfolio Overview**
			IND222	Proportional Valve Overview**
			IND223	Slip-in Cartridge Valve Overview**
			IND224	Servo Valve Overview**
			IND225	AxisPro Proportional Valve Overview**
			IND226	Directional Mobile Valve (DMV) Overview**
			IND227	Vane Pump and Motors Overview**
			IND228	Industrial Medium Power OCP Pumps Overview**
			IND229	Hydrokraft Pumps/Motors Portfolio Overview**
			IND230	Dowmax Motors Portfolio Overview**
IND231	<a href="#">Industrial Flow Control Valves Overview</a>			
IND232	<a href="#">Industrial Pressure Control Valves Overview</a>			

\*Must be logged in to your [Danfoss Learning](#) account to register

\*\*Coming soon!



**RAP**

## RAP Training Program

# Review of Products and Applications

Role	Level	PPP Required?	Course ID	Course Title
<b>REVIEW OF PRODUCTS AND APPLICATIONS (RAP)</b>				
<b>Outside Sales</b>	300	Yes	RAP301	<a href="#">Closed Circuit RAP</a>
			RAP302	<a href="#">Open Circuit RAP</a>
			RAP303	<a href="#">Connect and Control Solutions RAP</a>
<b>Technical Expert</b>	400	Yes	RAP401	<a href="#">Advanced Closed Circuit RAP</a>
			RAP402	<a href="#">Advanced Open Circuit RAP</a>

*\*Must be logged in to your [Danfoss Learning](#) account to register*

# RAP Training Program

## Closed Circuit RAP

### Level 300 (RAP301)

#### Learning Goals:

This course provides basics about design and function of axial piston products and their control options. It covers closed circuit systems design recommendations and sizing tools.

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss closed circuit products, students will:

- Learn about company history, current structure, and future direction
- Network with Danfoss distribution support teams and other distributor partners
- Tour Ames Application Development Center and manufacturing facility

#### Topics Covered:

Products - there will be discussions of what products and services we have to offer, typical applications, product specifications, options, design features and benefits for the following:

- H1 pumps and bent axis motors
- S40 pumps and motors
- Low speed high torque (LSHT) motors
- L/K motors

Applications - in-depth discussions will be led by systems and applications engineers on various topics including:

- Basic closed circuit hydraulics
- Pump controls
- Component sizing and selection
- Pressure, speed and life
- Basic hydraulic troubleshooting

#### Class Offerings:

November 4-8, 2024

[To register](#)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

2 years of field sales



#### Location

On-site classroom (Ames, IA)



#### Duration

4.5 days, 36 hours



#### Tuition

\$1,000

# RAP Training Program

## Open Circuit RAP

### Level 300 (RAP302)

#### **Learning Goals:**

This course provides basics about design and function of axial piston products and their control options. It covers open circuit systems design recommendations and sizing tools.

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss open circuit products, students will:

- Learn about company history, current structure, and future direction
- Network with Danfoss distribution support teams and other distributor partners
- Tour Ames Application Development Center and manufacturing facility

#### **Topics Covered:**

Products - there will be discussions of what products and services we have to offer, typical applications, product specifications, options, design features and benefits for the following:

- Series 45 piston pumps
- PVG valves
- Low speed high torque (LSHT) motors
- Steering products
- Reverse displacement motor
- Electronic components

Applications - in-depth discussions will be led by systems and applications engineers on various topics including:

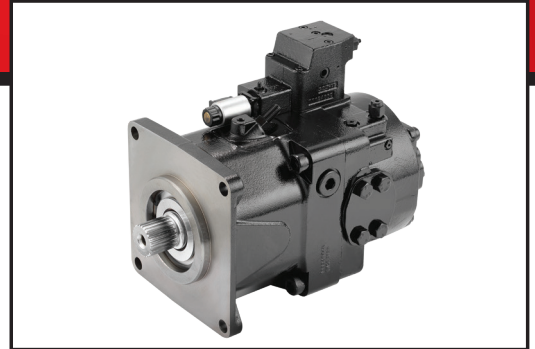
- Basic open circuit hydraulics
- Fan drive systems
- Basic hydraulic troubleshooting
- Fluid and filtration
- Sales tools
- Group sizing exercises and presentations

#### **Class Offerings:**

February 19-23, 2024

[To register](#)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### **Participants**

Open to Danfoss distributors, including sales representatives and technical support engineers



#### **Pre-requisites**

2 years of field sales



#### **Location**

On-site classroom (Ames, IA)



#### **Duration**

4.5 days, 36 hours



#### **Tuition**

\$1,000

# RAP Training Program

## Connect and Control Solutions

### Level 300 (RAP303)

#### Learning Goals:

This course provides basics about design and function of connect and control electronic products. It covers services we offer, typical applications, product specifications, and product options.

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss connect and control electronic products, students will:

- Learn about company history, current structure, and future direction
- Network with Danfoss distribution support teams and other distributor partners
- Tour Ames Application Development Center and manufacturing facility

#### Topics Covered:

Products - there will be discussions of what products and services we have to offer, typical applications, product specifications, options, design features and benefits for the following:

- Microcontrollers
- Displays
- Joysticks
- Software tools
- Sensors
- Telematics

Applications - in-depth discussions will be led by systems and applications engineers on various topics including:

- System integration
- Basic electronic troubleshooting
- CAN communication
- Sales tools
- Sub-system applications
- Key application solutions
- Group sizing exercises and presentation

#### Class Offerings:

August 6-8, 2024

[To register](#)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

2 years of field sales



#### Location

On-site classroom (Ames, IA)



#### Duration

2.5 days, 20 hours



#### Tuition

\$1,000



# RAP Training Program

## Advanced Closed Circuit RAP

### Level 400 (RAP401)

#### Learning Goals:

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss closed circuit products, students will:

- Learn about company history, current structure, and future direction
- Network with Danfoss distribution support teams and other distributor partners
- Tour Ames Application Development Center and manufacturing facility

#### Topics Covered:

Systems and Applications - in-depth discussions will be led by Applications Engineers on various topics including:

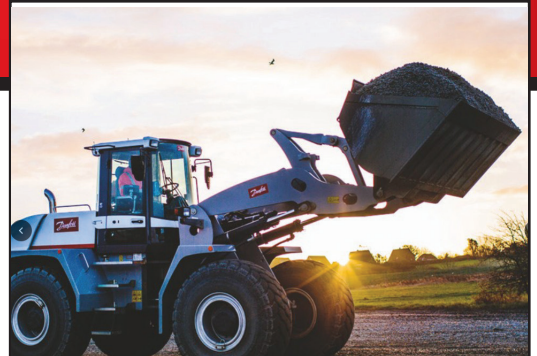
- H1 integrated speed limitation
- H1B pressure compensation and brake pressure defeat
- Charge pump sizing
- Traction control
- Combined pumps
- Remote pressure limiting
- EDC/NFPE/automotive control
- Non propel applications
- System reviews
- Life calculations
- Autonomy
- Safety options
- Hazardous location
- Troubleshooting

#### Class Offerings:

May 14-16, 2024

[To register](#)

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

Closed Circuit RAP (RAP301) and 5 years of field sales



#### Location

On-site classroom (Ames, IA)



#### Duration

2.5 days, 20 hours



#### Tuition

\$2,000

# RAP Training Program

## Advanced Open Circuit RAP

### Level 400 (RAP402)

#### Learning Goals:

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss closed circuit products, students will:

- Learn about company history, current structure, and future direction
- Network with Danfoss distribution support teams and other distributor partners
- Tour Ames Application Development Center and manufacturing facility

#### Topics Covered:

Systems and Applications - in-depth discussions will be led by applications engineers on various topics including:

- S45 electronic torque limiting
- Open circuit stability
- Closed loop speed/position control
- Electrohydraulic steering
- PVG topics (load holding, meter-in/meter-out, combination valves, selecting electrical actuators)
- Multiple pump and multiple valve systems
- Vehicle demonstrations
- Troubleshooting exercises
- System reviews

#### Class Offerings:

---

TBD 2025

---

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

Open Circuit RAP (RAP302) and 5 years of field sales



#### Location

On-site classroom (Ames, IA)



#### Duration

2.5 days, 20 hours



#### Tuition

\$2,000



# SYSTEM AND APPLICATIONS

# System and Applications Training Program

## System and Applications

The Work Function Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>SYSTEM AND APPLICATIONS</b>				
Inside Sales	100	Yes	DPS101	<a href="#">Introduction to Electrohydraulic Applications</a>
			DPS102	<a href="#">System Types - Open and Closed Circuits</a>
			DPS103	<a href="#">Hydraulic System Properties</a>
			DPS104	<a href="#">System Management</a>
			DPS105	<a href="#">Fan Drive Systems</a>
			DPS106	<a href="#">Work Function Systems</a>
			DPS107	<a href="#">Propulsion</a>
			DPS108	<a href="#">Steering Systems</a>
			DPS109	<a href="#">Functional Safety - Requirements</a>
			DPS110	<a href="#">Functional Safety - Design</a>
		No	DPS111	<a href="#">EX Training Level 1</a>
			DPS112	<a href="#">EX Training Level 2</a>

\*Must be logged in to your [Danfoss Learning](#) account to register



# WORK FUNCTION

# Work Function Training Program

## Work Function

The Work Function Training Program courses include a series of online modules, designed to help our partners learn more about our company and products. Each course is an interactive video and will take about 20-30 minutes to complete. To receive credit for the course, users must pass a quiz at the end of the module with a score of 80% or higher. Subtitles in English are available on request.

Role	Level	PPP Required?	Course ID	Course Title
<b>GEARS</b>				
Inside Sales	100	Yes	GRS102	<a href="#">Fan Drive Fundamentals</a>
			GRS103	<a href="#">Fan Drive Components</a>
			GRS104	<a href="#">Shhark® Technology</a>
	300		GRS301	<a href="#">Product Fundamentals - Gears</a>
<b>MOTORS</b>				
Inside Sales	100	Yes	MTR101	<a href="#">Introduction to Motor Business Unit</a>
			MTR102	<a href="#">Introduction to Motors Product Overview</a>
			MTR103	<a href="#">Disc Valve</a>
			MTR104	<a href="#">Spool Valve Design Motors</a>
<b>STEERING/eSTEERING</b>				
Inside Sales	100	Yes	STR101	<a href="#">Introduction to Steering Business Unit</a>
			STR102	<a href="#">Introduction to Steering Product Overview</a>
			STR103	<a href="#">Basic Steering Systems</a>
			EST101	<a href="#">Introduction to eSteering Business Unit and Product Portfolio Overview</a>
	200	Yes	EST200	<a href="#">Steering Solutions and Applications Basic Training</a>
	300	Yes	EST300	<a href="#">Steering Solutions - EHi and OSPE Training</a>
			STR302	<a href="#">Product Fundamentals - Steering Solutions</a>
			EST360	<a href="#">Steering Solutions - MultiAxis Steer Training</a>
EST362			<a href="#">Steering Solutions - PVED-CLS Basic Training</a>	
Technical Experts	400	Yes	EST400	<a href="#">Steering Solutions - CAN and Plus+1 Function Blocks Training</a>
			STR403	<a href="#">Steering Solutions - Application Training</a>
			EST408	<a href="#">Steering Solutions - Integration and Validation Training</a>

\*Must be logged in to your [Danfoss Learning](#) account to register

# Work Function Training Program

## Product Fundamentals - Gears

### Level 300 (GRS301)

#### Learning Goals:

This course provides basics about the BU Gears product portfolio. It explains the basics about the design and function of each BU Gears product (e.g., shhark® technology, gear pumps, motors and fan drives). The training covers and explains the main features and valve proposition of BU Gears products. There will also be a hands-on demonstration about the different configurations available and how a gear unit works.

Upon completion of this course, students will:

- Understand the BU Gears product portfolio
- Understand the value proposition of each product
- Understand the target markets and main application (e.g., case studies, BU Gears, hot spots, etc.)

#### Topics Covered:

- Products: gear pumps, gear motors, shhark®, fan drives
- Introduction to BU Gears business
- BU Gears products and fan drive solutions
- Product selection and sizing/dimensioning
- FAQ overview about BU Gears products
- Workshop on pump and motor configuration
- Real units teardown and assembly
- Competitor's benchmark

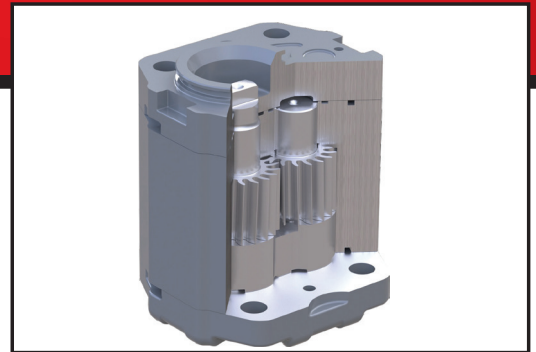
#### Class Offerings:

---

To be determined

---

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

None



#### Location

Virtual classroom



#### Duration

4.5 hours



#### Tuition

\$500

# Work Function Training Program

## Product Fundamentals - Steering Solutions

### Level 300 (STR302)

#### Learning Goals:

This course covers hydraulic and electrohydraulic steering systems. Participants will gain an overview of the valves, subcomponents, circuit types, functional safety principles, input devices, and sensors needed to implement a safe and robust steering solution.

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss steering products, students will:

- Know the components and the functions of steering products
- Have an increased knowledge of steering applications
- Be able to identify business opportunities for steering applications

#### Topics Covered:

- Orbital Steering Products: OSPB, OSPC, OSPD, OSPF, OSPS, OSPL, OSPUL, VSP, VSPP, & OSPU
- OLS priority valves
- OSQ flow amplifiers
- OSPE and EHI electrohydraulic valves
- PVE Actuators
- SASA sensor and eWheel 100

#### Class Offerings:

March 20, 2024

9:00 AM - 4:00 PM (CST)

[To register](#)

September 25 2024

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including sales representatives and technical support engineers



#### Pre-requisites

2 years of field sales



#### Location

Virtual classroom



#### Duration

4.5 hours



#### Tuition

No charge



# Work Function Training Program

# Steering Solutions Application Training

## Level 400 (STR403)

### Learning Goals:

In order to equip our distribution partners with the product knowledge and tools needed to recognize sales opportunities and successfully apply Danfoss steering products, students will:

- Know the components and the functions of steering products
- Have an increased knowledge of steering applications
- Be able to identify business opportunities for steering applications

### Topics Covered:

Products - in-depth discussions will be led by applications engineers on various topics including:

- Open center steering units (OSPC, OSPD)
- Load sensing steering units (OSPC, OSPD, OSPF, OSPL, OSPU)
- OLS priority valves
- OSQ flow amplifiers
- OSPE and EHi electrohydraulic power steering valves
- PVED-CLS, PVES, PVED-CC actuators

### Content:

- Exercises in small groups
- Plant tour
- Basic design and working principles of our steering products
- Component sizing
- Vehicle demos

### Class Offerings:

April 30 - May 2, 2024

8:00 AM - 5:00 PM (CDT)

[To register](#)

October 15-17, 2024



#### Participants

Open to Danfoss distributors, including technical sales and application engineers



#### Pre-requisites

None; however, basic knowledge of hydraulics and ability to read schematics is recommended



#### Location

On-site classroom (Ames, IA)



#### Duration

27 hours



#### Tuition

\$900

*\*Must be logged in to your [Danfoss Learning](#) account to register*



# SERVICE SCHOOL

# Service School

# Service School

## Level 500 (DPS502)

### Learning Goals:

This course provides instruction and training on how to troubleshoot, service, and repair Danfoss core products.

Upon completion of the training, participants are expected to:

- Identify a product
- Know how to disassembly and assembly a product
- Analyze a product/parts of the product, determine cause of failure, and document
- Know how and where to find all needed materials for technical jobs

### Topics Covered:

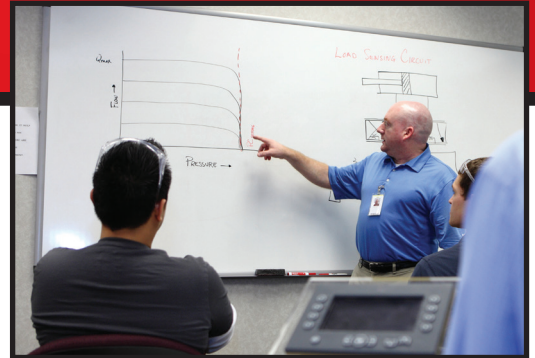
Products - in-depth discussions will be led by applications engineers on various topics including:

- High power closed circuit pumps and motors (Series 90, H1, Series 51)
- Medium power closed circuit pumps and motors (M46, L&K Motors)
- Open circuit pumps (Series 45)

### Class Offerings:

March 25-28, 2024	8:00 AM - 5:00 PM (EDT)	<a href="#">To register</a>
September 16-19, 2024	Half-day Friday	

*\*Must be logged in to your [Danfoss Learning](#) account to register*



#### Participants

Open to Danfoss distributors, including service technicians



#### Pre-requisites

None



#### Location

On-site classroom (Ames, IA)



#### Duration

4.5 days



#### Tuition

\$835



# LAUNCH WEBINARS

# Virtual Self-Study Courses

## Launch Webinars

### Level 100

#### Learning Goals:

“Launch” is a quarterly web-based seminar focusing on new product introductions. Participants will be taken through the new product features and benefits and will learn to study business opportunities.

Content and learning goals will change according to the launch plan and they will include topics such as:

- How to specify the new product/feature
- How to find a part number
- How to find price information
- How to order prototypes
- How to find technical information
- Where to find more information and who to contact

Registration in Danfoss Learning is required to receive the invite to the webinar. The agenda will be shared a few days before the meeting.

Launch Webinars are obligatory events for all partners participating in PPP.



#### Participants

Open to all Danfoss distributor personnel



#### Pre-requisites

None



#### Location

Web-based seminar



#### Duration




1 hour



#### Tuition

No charge

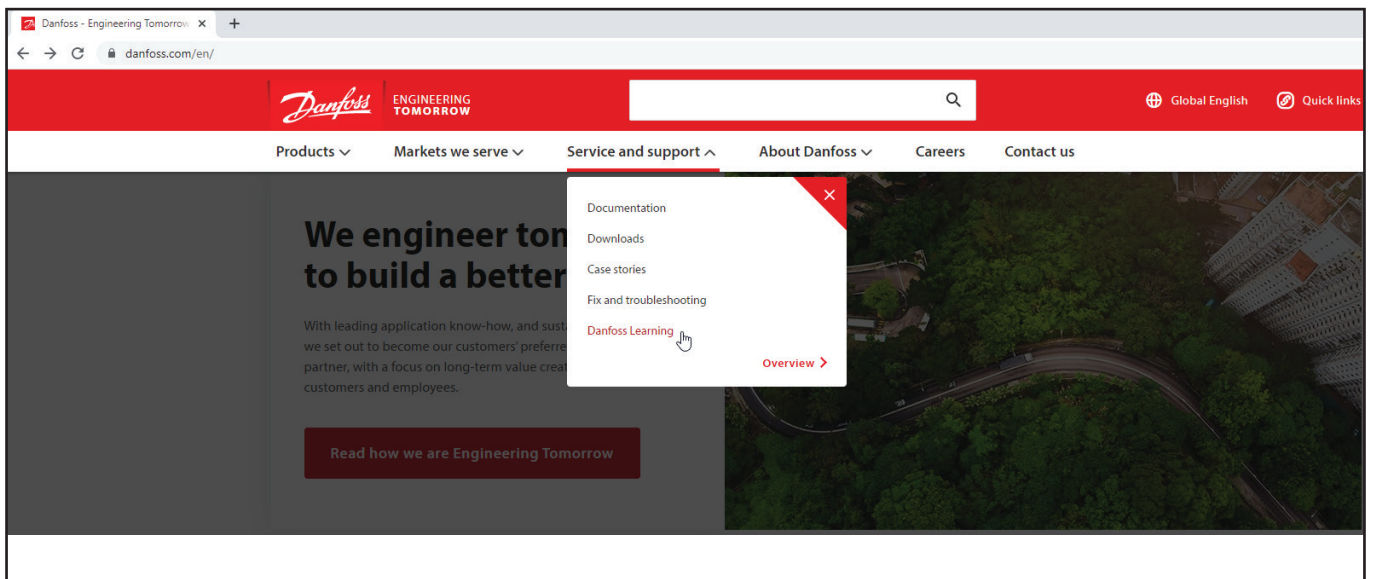
#### 2024 Class Offerings:

 <b>Asia/Pacific</b> Time zone: UTC+11, Sydney	 <b>Europe</b> UTC+2, Berlin	 <b>America</b> UTC-5, Chicago
Launch Q1 <a href="#">March 18</a> 16:00 – 17:00	Launch Q1 <a href="#">March 22</a> 10:00 – 11:00	Launch Q1 <a href="#">March 25</a> 10:00 – 11:00
Launch Q2 <a href="#">June 17</a> 16:00 – 17:00	Launch Q2 <a href="#">June 21</a> 10:00 – 11:00	Launch Q2 <a href="#">June 24</a> 10:00 – 11:00
Launch Q3 <a href="#">September 23</a> 16:00 – 17:00	Launch Q3 <a href="#">September 27</a> 10:00 – 11:00	Launch Q3 <a href="#">September 30</a> 10:00 – 11:00
Launch Q4 <a href="#">December 9</a> 16:00 – 17:00	Launch Q4 <a href="#">December 13</a> 10:00 – 11:00	Launch Q4 <a href="#">December 16</a> 10:00 – 11:00

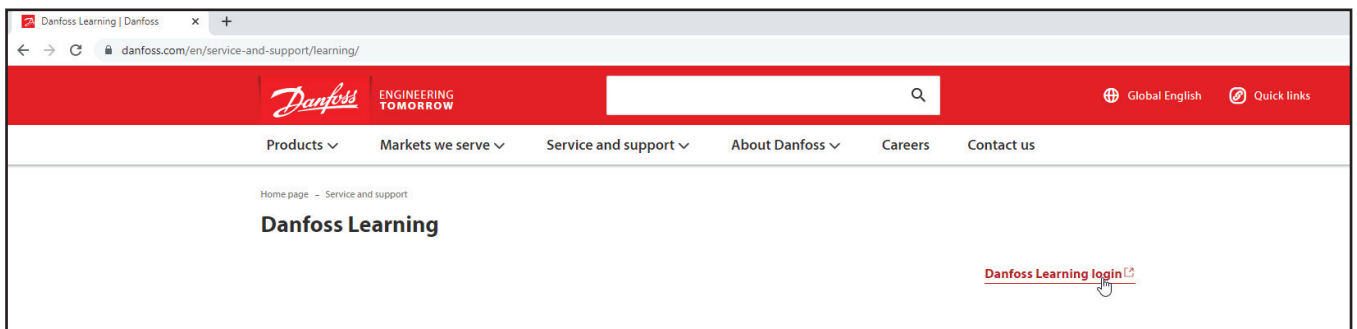
# How to access Danfoss Learning from the Danfoss Website

*(Users without my.Danfoss.com)*

1. Navigate your browser to Danfoss.com.
2. Click on “Danfoss Learning” under the “Service and Support” menu.



3. Click the link for “Danfoss Learning Login”.



4. Either log in or sign up for a Danfoss Learning profile.

The image shows two overlapping screenshots of the Danfoss Learning profile creation and login interface. The top screenshot is titled "Sign up for a Danfoss Profile" and features a "Log in" link and a "Sign up" link. Below the links is a section titled "Benefits of a Danfoss Profile" which explains that the profile is used for logging into Danfoss Learning and can be used for all Danfoss applications. The main form area includes fields for "Email \*", "Password \*", and "Re-type Password \*", followed by "First name \*" and "Last name \*". There are two checkboxes: "I agree to Danfoss Profile terms of use" and "I have read and understood the Danfoss privacy policy". A red "Submit" button is at the bottom right.

The bottom screenshot is titled "Log in or sign up for a Danfoss Profile" and features a "Log in" link and a "Sign up" link. Below the links is a form with fields for "Email \*" and "Password \*". A red "Log in" button is below the password field. A link "→ Forgot your password? ⓘ" is at the bottom left. To the right of the form is the same "Benefits of a Danfoss Profile" text as in the top screenshot.

5. You will receive a verification email and also be prompted to specify your interests so that relevant learning content can be linked to your profile.

The image shows a form titled "Additional information needed for Danfoss Learning". The form is divided into two columns. The left column contains the text: "You are about to use your Danfoss Profile in Danfoss Learning.", "To proceed we need a little more information.", and "Please fill in all the fields marked with (\*)". The right column contains several dropdown menus: "Language \* ⓘ", "Company ⓘ", "Country/Region \* ⓘ", "Time zone \* ⓘ", "Company type \* ⓘ", and "Interest area \* ⓘ". Below these are two checkboxes: "I agree to Danfoss Learning terms of use" and "I agree to Danfoss privacy policy". At the bottom are two buttons: "Submit" and "Cancel".

# Terms and Conditions

## Scope

Our Hydraulics Education training sessions are open to Danfoss Power Solutions Sales and Service Partners, and OEM personnel, as well as the general public.

## Enrollment

A Danfoss Learning profile is required for enrollment. Enrollment must be completed through the training platform in "Danfoss Learning" for individual learners. Should it prove necessary to change your enrollment, we will do what we can to offer an alternative option. We recommend that you sign up early to secure a seat in the training class you would like to attend; latest enrollment date is three (3) weeks prior to the start of class.

## Confirmation

Once you have registered for a class in Danfoss Learning, you will receive a notification that acknowledges your entry. Approximately two (2) weeks prior to the training, you will receive an email that confirms, accepts (or declines) your enrollment, and provides you with all the information you need to attend the class.

## Cancellation

We reserve the right to change the venue and/or the date, and to fully cancel a training at short notice (in case of instructor's illness). We will cancel two (2) weeks prior if enrollment falls under the six (6) person minimum class level. In case of cancellations, we will offer you alternative options. In such cases, we will immediately inform those who signed up. Participants who signed up for training sessions that were cancelled cannot make any further claims.

## Right of withdrawal

If you should suddenly become unable to attend the training you signed up for, you can pass your seat to a substitute at no further expense. If you are forced to withdraw and cannot find a substitute, please notify us in writing at least two (2) weeks before the class at the latest. If you notify us two (2) weeks before and return the materials, you can withdraw free of charge. If you do not return the materials or you do not show up, you will be charged the entire training price. The process and timing for charging cancellation fees may vary based on payment method.

## Completion requirements

Students will be required to attend and participate in all training sessions. Successful completion of courses will require passing an academic exam with a minimum score of 70% in order to receive a certificate of course completion. If an individual does not pass the written test on the first attempt; the attendee will be placed in remediation status and offered one re-test at no additional expense.

## Training price

Unless otherwise specified, pricing covers training, training materials and catering (if applicable) during the class hours. ("Free of charge" training provides the same at no charge to the customer.) Invoices will be issued after the training, if applicable to payment method. Hotel accommodations and meals outside of training hours are not included in the training price.

## Data protection

As a participant, you accept and agree that Danfoss Power Solutions GmbH & Co. OHG will store and process personal data that are related to your participation in our training sessions.

## Liability

We accept no liability other than for damage caused by our employees, either intentionally or negligently. Otherwise we disclaim all liabilities.

## Copyright

The reproduction of training material for unauthorized purposes, creation, forwarding, reusing or communicating its contents to third parties, and creation of derivative works are forbidden.

## Certificate

After you have successfully completed a training, and pass the assessment, you will receive a certificate (if applicable).

## Training duration

The duration of each class varies and appears in the description of the selected training course in the Danfoss Learning training platform.

## Safety

As a participant, you are obliged to observe our safety and accident prevention regulations. For our product, system and service training sessions, safety shoes and safety glasses are required.

## Room reservation

It is the student's responsibility to arrange hotel accommodations and transportation, but we can provide a list of recommended hotels.

## Transportation

Danfoss Power Solutions does not offer any kind of transportation.

## Disclaimer

We reserve the right to substitute instructors, and change the contents, procedures and location of a training course, provided that such changes do not impair the intended outcome of the training.