

Training.

For SE All-Electric, El-Exis SP, Systec and Van Dorn legacy machines and controls

2019 Schedule



Pre-scheduled and customized technical training is available at:

- Your facility
- Our Tech Center in Ohio
- Our Tech Center in Georgia

Training to Meet Your Needs

Sumitomo (SHI) Demag's philosophy is to offer a carefully prepared training experience that satisfies the needs of all who participate. Therefore, if you are new to the injection molding process or a veteran of processing challenges, you will learn valuable information you can apply to your job responsibilities.

Our training courses cover processing, machine optimization and maintenance on our current machines as well as on a variety of our older machines. The courses are all designed to help improve your molding efficiency and overall productivity by achieving the optimum performance of your Sumitomo, Demag and Van Dorn machines.

Customized in-plant programs

Customized training programs, held at your facility using your equipment, are available for most Sumitomo, Demag and Van Dorn machine models. Our Training team will work with you to design an individualized program that will best meet your needs—from hands-on machine operation and maintenance to advanced processing and application-specific process optimization.

Pre-scheduled classroom training

Affordably priced, pre-scheduled training courses are offered at Sumitomo (SHI) Demag's training facilities, away from production concerns and responsibilities. Course descriptions, dates and costs for 2019 are detailed in this brochure. Where possible, corresponding courses are consecutively scheduled, allowing attendees to take both courses in a single trip.

A choice of locations

Sumitomo (SHI) Demag offers customers a choice of three locations:

- Customized training in your facility
- Pre-scheduled training in our Cleveland Tech Center in Strongsville, OH (most machine/control series)

11792 Alameda Dr.
Strongsville, OH 44149
PH: 440-876-8960
Fax: 440-876-4383

- Pre-scheduled training at the **new** Atlanta Tech Center in Suwanee, GA (SE Series all-electric machines*)

410 Horizon Dr., Suite 200
Suwanee, GA 30024
PH: 440-876-8960
Fax: 440-876-4383

*It is also possible to arrange scheduled classroom training for Demag and Van Dorn machines in our Atlanta Tech Center. Please use the contact information below to discuss your requirements.

Additional information and registration

For additional information on pre-scheduled training or customized programs, please contact Mark Lepole at 440-876-6203 or via email at Mark.Lepole@sdpma.com.

To register for any of the pre-scheduled classes, use the registration form found on the back page of this brochure. A pdf of this brochure with a form that can be completed on your computer can also be found at:

sumitomo-shi-demag.us/pdfs/Training_Form_2019.pdf

Don't see a class for your machine/control? Schedule doesn't fit yours? Please call us.

SE Series Processing Fundamentals

This processing fundamentals course is designed to provide the beginner to the intermediate processor with a good foundation to understanding the individual functions of the machine and auxiliaries that comprise the plastic injection molding system.

Hands-on operation will provide you with the confidence to solve molding problems and sharpen your molding skills.

4 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1450

Location: Atlanta (Suwanee) Tech Center
Dates: May 6-9 and November 11-14, 2019



SEEV-A/SEEV-A^{HD} Machine Operation

The SEEV-A/SEEV-A^{HD} Machine Operation course is designed for individuals who already have a basic understanding of injection molding machine functions and operation.

This classroom and hands-on course will familiarize you with the operation of the SEEV-A/SEEV-A^{HD} all-electric injection molding machine series plus how to take full advantage of the NC-10 Z-Molding Control to optimize machine performance. Questions regarding earlier models will be addressed as needed.

2 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1000

Location: Atlanta (Suwanee) Tech Center
Dates: April 23-24, June 18-19, August 13-14, October 15-16 and November 5-6, 2019

Location: Cleveland Tech Center
Dates: February 26-27, March 19-20, May 14-15, July 16-17 and September 17-18, 2019

NOTE: For students attending both the SEEV-A/SEEV-A^{HD} Operation and Machine Maintenance courses, the combined cost will be \$1800. The courses are consecutively scheduled to start on Tuesday and finish on Friday.



SE-EV Training

The courses on this page are also well suited for molders with SE-EV Series machines. For training on other SE machines with N-9 or earlier controls, please contact Mark Lepole using the information at the bottom of the page.



SEEV-A/SEEV-A^{HD} Machine Maintenance

The SEEV-A/SEEV-A^{HD} Machine Maintenance course is designed for individuals who have basic electronics and hydraulic skills as well as a good understanding of injection molding machine functions and operation.

This classroom and hands-on course teaches troubleshooting and maintenance of the new SEEV-A/SEEV-A^{HD} all-electric machines as well as effective use of the NC-10 Z-Molding Control system. Questions regarding earlier models will be addressed as needed.

2 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1000

Location: Atlanta (Suwanee) Tech Center
Dates: April 25-26, June 20-21, August 15-16, October 17-18 and November 7-8, 2019

Location: Cleveland Tech Center
Dates: February 28 - March 1, March 21-22, May 16-17, July 18-19 and September 19-20, 2019

Additional Training Courses

Machine operation and maintenance courses at your facility can be arranged for SE and SR all-electric and Sumitomo hydraulic legacy machines.

Please contact Mark Lepole for more information at (440) 876-6203 or via email at Mark.Lepole@sdpmna.com.

Operation and Controls Training



NC5 plus Control

This classroom course is designed for operators, set-up technicians and new personnel who require a basic understanding of the injection molding process, operator set-up screens, alarm faults and process monitoring. Course topics include:

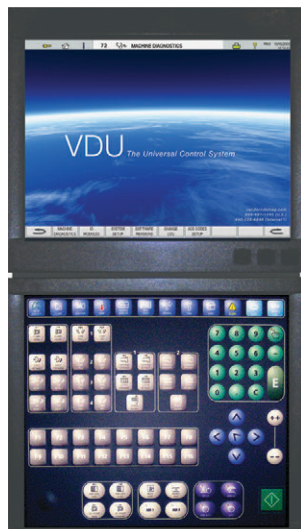
- Understanding the machine sequence
- Machine safety features
- Machine overview (component identification)
- Operator interface
- Control screen description
- Clamp/ejector and core-pull system set-up
- Temperature control
- Injection process
- Set-up screens associated with injection
- Understanding closed loop
- Machine and production monitoring screens

2 days, 9:00 A.M. to 5:00 P.M.

Course fee: \$1000

Location: Cleveland Tech Center

Dates: March 26-27 and September 24-25, 2019



VDU® Control

The VDU (Van Dorn Universal) Control course is designed for operators, set-up technicians and new personnel who require a basic understanding of the injection molding process, operator set-up screens, alarm faults and process monitoring. Topics for this classroom course include:

- Understanding the machine sequence
- Machine safety features
- Machine overview (component identification)
- Operator interface
- Control screen description
- Clamp/ejector and core-pull system set-up
- Temperature control
- Injection process
- Set-up screens associated with injection
- Understanding closed loop
- Machine and production monitoring screens

2 days, 9:00 A.M. to 5:00 P.M.

Course fee: \$1000

Location: Cleveland Tech Center

Dates: May 14-15 and October 1-2, 2019

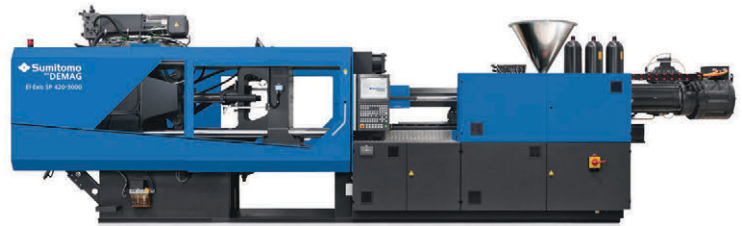
Maintenance and Troubleshooting Training for Hybrid and Hydraulic Machines

El-Exis SP Series - Electrical and Mechanical System Maintenance

This classroom course is designed for maintenance personnel (both technical and supervisory) who require a better understanding of the overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on machine operation, screens or processing technology should attend the NC5 plus or NC4 Control course.) Course topics include:

- Basic machine operation and safety features
- Clamp and injection unit descriptions
- Maintenance and alarm/fault message screens
- Machine layout/component identification
- Preventive maintenance and lubrication requirements
- System diagnostics and troubleshooting
- Hydraulic drive systems: controls, symbols, print reading and advanced hydraulic controls
- AC drives and servo motors, basic theory, operation, calibration and troubleshooting
- System diagnostics - principles/function of input/output devices, hardware description and identification and amplifier cards
- Electrical symbols, control circuits and troubleshooting fault codes

3 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1400
Location: Cleveland Tech Center
Dates: March 19-21, May 21-23, Oct. 8-10 and Dec. 3-5, 2019



Demag NC4/NC5 Print Reading

This classroom course is designed for maintenance personnel who require more in-depth experience in machine troubleshooting to fully understand IEC standard prints and the proper calibration procedures for all sensors and components that require periodic adjustments. It is applicable for machines with NC4 and NC5 controls that have IEC (International Electrical Standard) prints. Course topics include:

- IEC symbols and extensive electrical print reading
- How to use the bit status screen in troubleshooting
- Basic operational and alarm/fault message screens
- Operation of smart pumps
- System diagnostics
- How to calibrate position sensors, pressure sensors and smart pumps
- NC4/NC5 control: system diagnostics - principles and function of input and output devices, hardware description and identification, and amplifier cards

3 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1400
Location: Cleveland Tech Center
Dates: April 30 - May 2 and Oct. 29-31, 2019



Maintenance and Troubleshooting Training for Hybrid and Hydraulic Machines

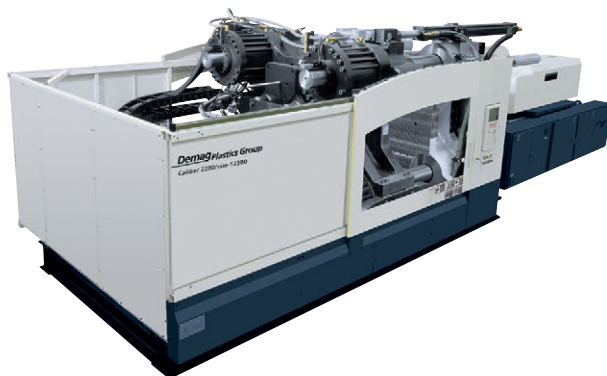
Systemc Machines – Electrical and Mechanical System Maintenance



This classroom course is designed for maintenance personnel (both technical and supervisory) who require a better understanding of the overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on machine operation, screens or processing technology should attend the NC5 plus Control course.) Course topics include:

- Basic machine operation and safety features
- Clamp and injection unit maintenance
- Hydraulic/electrical systems overview
- Alarm message, production monitor and calibration screens
- Preventive maintenance and lubrication requirements
- Machine troubleshooting
- Hydraulic systems: basic theory, controls, symbols, advanced hydraulic controls and hydraulic circuit analysis and test points
- NC5 plus Control: system calibrations, alarm faults and service screens, principles and functions of input and output devices, C-Dias control panel layout and hardware description, control modules description and electrical control circuit diagram

3 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1400
Location: Cleveland Tech Center
Dates: May 7-9, June 4-6, Sept. 10-12 and Dec. 10-12, 2019



Caliber Series Hydraulic, Electrical & Mechanical System Maintenance with the VDU Control

This classroom course is designed for maintenance personnel (both technical and supervisory) who require a better understanding of the overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on VDU processing techniques only should contact the Training Department.) Course topics include:

- Basic machine operation, safety features & troubleshooting
- Clamp and injection unit maintenance
- Hydraulic/electrical systems overview
- Alarm message, production monitor and calibration screens
- Preventive maintenance and lubrication requirements
- Hydraulic systems: basic theory, controls, symbols, advanced hydraulic controls (cartridge valves, proportional valves and variable volume pumps), and hydraulic circuit analysis
- VDU control: system calibration, alarm faults and service screens, control panel layout and hardware description, control modules description and electrical control circuit diagram

3 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1400
Location: Cleveland Tech Center
Dates: Nov. 12-14, 2019

Caliber Series - Hydraulic, Electrical and Mechanical System Maintenance with Pathfinder 3000 - 5000 Controls

This classroom course is designed for maintenance personnel (both technical and supervisory) who require a better understanding of the overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on Pathfinder 3000 – 5000 processing techniques only should contact the Training Department.) Course topics include:

- Basic machine operation, safety features & troubleshooting
- Clamp and injection unit maintenance
- Hydraulic/electrical systems overview
- Alarm message, production monitor and calibration screens
- Preventive maintenance and lubrication requirements
- Hydraulic systems: basic theory, controls, symbols, advanced hydraulic controls and hydraulic circuit analysis
- Pathfinder 3000-5000 control: system calibration, alarm faults and service screens, principles and functions of input and output devices, control panel layout and hardware description, control modules description and electrical control circuit diagram

3 days, 9:00 A.M. to 5:00 P.M. Course fee: \$1400
Location: Cleveland Tech Center
Dates: April 23-25 and September 17-19, 2019

HT/HP Series - Hydraulic, Electrical and Mechanical System Maintenance with Pathfinder 3000 - 5000 Controls

This classroom course is for maintenance personnel (technical & supervisory) requiring a better understanding of overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on Pathfinder 3000 – 5000 processing techniques only should contact the Training Department.) Topics include:

- Basic machine operation, safety features & troubleshooting
- Clamp and injection unit maintenance
- Hydraulic/electrical systems overview
- Alarm message, production monitor and calibration screens
- Preventive maintenance and lubrication requirements
- Hydraulic systems: basic theory, controls, symbols, advanced hydraulic controls (cartridge valves, proportional valves & variable volume pumps), & hydraulic circuit analysis
- Pathfinder 3000 - 5000 control: system calibration, alarm faults and service screens, control panel layout and hardware description, control modules description and electrical control circuit diagram

3 days, 9:00 A.M. to 5:00 P.M.

Course fee: \$1400

Location: Cleveland Tech Center

Dates: April 2-4 and Oct. 15-17, 2019



HT/HP Series - Hydraulic, Electrical and Mechanical System Maintenance with the VDU Control

This classroom course is designed for maintenance personnel (both technical and supervisory) who require a better understanding of overall machine operation and maintenance including detailed circuit tracing of the hydraulic and electrical control systems. (Individuals requiring training on VDU processing techniques only should contact the Training Department.) Course topics include:

- Basic machine operation, safety features and troubleshooting
- Clamp and injection unit maintenance
- Hydraulic/electrical systems overview
- Alarm message, production monitor and calibration screens
- Preventive maintenance and lubrication requirements
- Hydraulic systems: basic theory, controls, symbols, advanced hydraulic controls (cartridge valves, proportional valves and variable volume pumps), and hydraulic circuit analysis
- VDU control: system calibration, alarm faults and service screens, control panel layout and hardware description, control modules description and electrical control circuit diagram

3 days, 9:00 A.M. to 5:00 P.M.

Course fee: \$1400

Location: Cleveland Tech Center

Dates: April 9-11, June 18-20 and Oct. 22-24, 2019

Additional Training Courses

The following classes are also available in Cleveland based on customer request:

- Pathfinder 3000 - 5000 Control Operation - 2 days, \$1000
- Ergotech with NC4 Maintenance - 3 days, \$1400
- NC4/Ergo Control Operation - 2 days, \$1000

Please contact Mark Lepole for more information at (440) 876-6203 or via email at Mark.Lepole@sdpma.com.

2019 Training Registration Form

Registrant Name(s) _____

Job Title _____

Company _____

Address _____

City, State and Zip Code _____

Phone _____

Email _____

Course #1 _____

Date(s) _____ Cost _____

Course #2 _____

Date(s) _____ Cost _____

Total: _____

Special Lunch Dietary Requirements: _____

Billing Information

American Express Visa Mastercard Discover

Credit Card Number _____ Expiration Date _____

Name on Card _____

Purchase Order Number _____

Please send this form to Terry Rieser via email to Terry.Rieser@sdpma.com or by using the Strongsville mailing address or fax number below. A form that can be filled out on your computer can be found at:

sumitomo-shi-demag.us/pdfs/Training_Form_2019.pdf



sumitomo-shi-demag.us

410 Horizon Dr., Suite 200, Suwanee, GA 30024

PH: 678-892-7900; Fax: 770-441-9168

11792 Alameda Drive, Strongsville, OH 44149

PH: 440-876-8960; Fax: 440-876-4383