

Course description

G920

HV Motors and Generators Maintenance Training AM_, H_, M3

Course duration

The duration of the course is three days
Location is in Helsinki, ABB Global Service Center

Course type and methods

This is an instructor led seminar with visit in the production lines.
The language of the course is English.

Course goal

The goal of the course is to give participants a good understanding of ABB's HV electrical motors, their structure and the concepts of motor life cycle management. The motor theory combined with factory visit helps the participants to understand the structure of the machine, the purpose of testing and the concept of maintenance, overhaul and repair.

Course objectives

Upon completion of this course the participant will have:

- learn electrical and mechanical engineering principles in machines design
- have a good understanding of the HV Motors product portfolio
- understand the manufacturing and order to delivery process
- gain on experience of products by guided visit to various production facilities
- learn maintenance and overhaul principles

Participant profile

This training is targeted at ABB customers, project management and maintenance persons working with ABB Motors and Generators

Topics

- Course introduction
- HV Motors overview
- Electrical engineering
- Insulation technology and processes
- Mechanical engineering
- Electrical measurements
- Ex products
- Machines service products and capabilities

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Course outline (Agenda)

Day 1 (Date)

9:00 – 9:45	HV Motors and Generators introduction
9:45 – 10:00	Break
10:00 – 10:45	Design of the Electrical Machines: Stator Frame, Stator Core, Rotor and Shaft, Bearings, Accessories, Winding and Insulation
10:45 – 11:00	Break
11:00 – 12:00	Winding and Insulation Maintenance
12:00 – 13:00	Lunch
13:00 – 13:45	Principle of induction machine: Magnetic Field, Rotating Field, Starting Protections
13:45 – 14:00	Break
14:00 – 14:45	Ex-products: Flameproof, Non-sparking, Increased safety, Pressurized, Dust ignition proof
14:45 – 15:00	Coffee Break
15:00 – 16:00	Electrical measurements: Insulation resistance, Resistance, Surge test, High voltage test, PD-measurement
16:00	Finishing the day

Day 2 (Date)

9:00 – 9:45	Global Service Group: Global Service Center
9:45 – 10:00	Break
10:00 – 10:45	Warranty and Technical Support
10:45 – 11:00	Break
11:00 – 12:00	ABB Asynchronous Motors and Generators: M3, HXR, AMA, AMI, (AMZ)
12:00 – 13:00	Lunch
13:00 – 13:45	Principle of Synchronous Motor
13:45 – 14:00	Break
14:00 – 14:45	AVR
14:45 – 15:00	Coffee Break
15:00 – 16:00	ABB Synchronous Motors and Generators
16:00	Finishing the day

Day 3 (Date)

9:00 – 10:00	Maintenance of machine: Bearings, Accessories
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10:00 – 10:15	Break
10:15 – 11:00	Transport and Storage of the Motor
11:00 – 11:15	Break
11:15 – 12:00	Pre-commissioning and Electrical Safety
12:00 – 13:00	Lunch
13:00 – 13:45	Trouble Shooting and Corrective Actions
13:45 – 14:00	Break
14:00 – 14:45	Condition Monitoring and Overhaul
14:45 – 15:00	Coffee Break
15:00 – 15:45	Factory tour (slide show, if the training is out of Helsinki factory)
15:45 – 16:00	Summary of the course
16:00	Finishing the Seminar

BU Motors and Generators Training

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