

# Certificate

## Basic Knowledge of Electric Control Technology (eESTG)

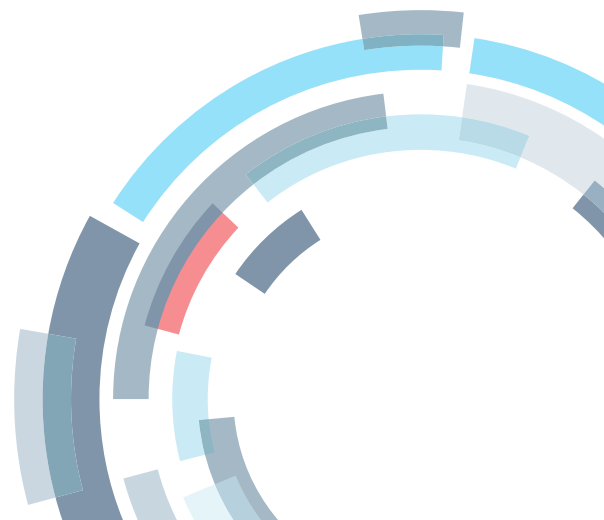
**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- Basic Introduction to Electric Control Technology
- Programmable Logic Controllers (PLC)
- Numerical Control Systems (CNC)
- Motion Control Systems (MC)
- Robot Control Systems (RC)
- Application and programming examples
- Interfaces

Qualification date:  
9/14/2021

Bosch Rexroth Academy  
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# Certificate

## Hydraulic circuits and control types (eHKS)

**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- Structure and function of a closed circuit
- Structure and function of an open circuit
- Various types of mobile hydraulic control systems
- Control types and energy balance

Qualification date:  
7/2/2021

Bosch Rexroth Academy  
Bosch Rexroth AG



# Certificate

## Hydraulics for beginners - basics (eHTB)

**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- General definition and typical applications
- Connection between mass and force, pressure calculation, physical basics
- Structure of a hydraulic system, function groups of the system and important components
- Representation of the components as graphic symbols
- Task and mechanism of hydraulic pumps and common models, calculation of the pump capacity
- Energy conversion of the hydraulic motors, efficiency of the motors
- Tasks and structure of hydraulic cylinders, connection between speed, flow and piston force

Qualification date:  
7/5/2021

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# Certificate

Knowledge of valve technology - basics (eHTVT)

**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- Valve types and their functions
- Comparison of the seat and spool principles
- Valve types in hydraulic systems
- Valve selection
- Stacking principles

Qualification date:  
9/14/2021

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# Certificate

## Basic knowledge of pneumatics (ePTG)

**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- Introduction to pneumatics
- Basic physical principles of pneumatics
- Generating and drying of compressed air, types of compressor - Maintenance units for conditioning, compressed-air networks
- Directional, flow, pressure, and isolator valves
- Pneumatic drives
- Graphical drives
- Graphical symbols, wiring diagrams i.a.w. ISO 1219
- Basics on designing components
- Basic pneumatic circuitry

Qualification date:  
9/20/2021

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# Certificate

## Valve technology – Control blocks of mobile hydraulics (eV-SM)

**Manuel Alberto Caipo Ccoa**

has successfully completed the training with the following contents:

- Tasks of the control blocks
- Different versions of the control blocks
- Various control types (throttle control, load sensing, etc.)
- Structure of various control blocks

Qualification date:  
7/3/2021

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