

**Level 3** (Page 1/7)

**Target audience :** Experienced engineers, designers and technicians

**Objectives:** Creation of 2D and 3D plans and calculation sheets

The participant will be able to:

- Design 2D plans using AUTOCAD/BricsCAD/ZWCAD

- Calculate (Sizing and Pressure loss)

- Quantify networks and materials

- Create 3D networks

- Import a network into a BIM model

- Use RVT Connect, ribbon for REVIT

Prerequisite: Knowledge and regular contact with AUTOCAD or similar working

environments

Knowledge of the Windows environment and the internet

Inscription

**conditions**: Signature of the price offer and the training contract and/or

validation of outside financing

**Lead times:** 7 days to 4 weeks

Prices: Single business: €1,200 ex VAT / day, €1,400 incl VAT for one

group of 1 to 5 persons max.

Multi-business: € 750 ex VAT / day, € 900 incl VAT Per person

**Duration:** 5 days, 35 hours

**Contact :** Mélinda Charbonnel, training manager. And her team of



**Level 3** (Page 2/7)

## **DAY 1**: Duration 7 hours

## **Basic settings**

- > Preference file
- > Working unit
- > Drawing scale

#### Sizes calculations

## There are 2 types of computations : one-off or whole network

- > Calculation of air networks
- > Calculation of water networks
- > Calculation of drain networks

## **Drawing**

- > Introduction to double line drawing
- > Structure of a conduit
- > Understanding specification
- > Routing (Double line and single line)
- > Drawing and calculations of spacing in sets of pipes
- > Insertion of standard components in line or on already drafted ducts
- > Network crossings
- > Customizable air conditioning terminal drawings (AHU, cassette...)

#### **Arrows**

- > Automatic drawing and positionning of arrows indicating directions of flows
- > Drawing slopes

#### **Quick modifications tools**

- > Swapping objects
- > Changing conduit shapes
- > Editing text
- > Deleting objects
- > Moving an object on a conduit

#### **Texts**

- > Understanding proportions
- > Choosing a style
- > Create automatic texts, frames, leader lines
- > Formatting of the most common information using prefixes and suffixes
- > Dimensioning



**Level 3** (Page 3/7)

## **DAY 2:** Duration 7 hours

## **Openings**

- > Sizing and drawing openings using existing network drawings
- > Drawing openings without a network
- > Modifying openings
- > Creating a list in the paper space
- > Exporting the list into Microsoft Excel

## Bills of equipments and materials

- > Creating zones
- > Networks bills
- > Bills of equipments
- > Finding equipment using marker tags
- > Creating lists in the presentation space
- > Export lists into Microsoft Excel

#### Others

- > Automatic redrawing of ducts after they are cut
- > Working with layers (freeze, transfer, lock, etc.)
- > Changing thicknesses

## Laying out drawings

- > Automatic composition of the drawing in the layout
- > Automatic insertion of title blocks formatting
- > Creating detail views
- > Updating the scale of views automatically
- > Inserting the file name, its file path and the list of related XREF in the margin automatically



**Level 3** (Page 4/7)

## **DAY 3:** Duration 7 hours

#### **DZETACAD – Pressure losses calculations**

- > Nearly all objects dimensions data is already available to the software because it is embedded in every object draughted in AUTOFLUID, as soon as they are created
- > Insert flow, flow direction, hidden lengths and equipment to complete the necessary information
- > Simply click on a selected segment of the chosen route to compute pressure drops
- > Displaying a schematic view of the route
- > Creating Excel tables tracking linear and singular pressure losses
- > Tables and calculation processes from reference studies in the industry (MEMENTO I.E IDEL'CIK, Air conditionning course PORCHER)

#### **AUTOCOUPE**

- > Inserting the cutting plane on a cross section automatically
- > Creating accurate base maps from the top view of a plan
- > Module for inserting technical data while on the top view of a plan
- > Module for deleting technical data
- > Automatic drawing of cross section and perfect positioning in the layout
- > Module for quick adjustments to the thickness of slabs level, suspended ceilings and raised floors



**Level 3** (Page 5/7)

## **DAY 4 :** Duration 7 hours

#### **AUTOBIM3D**

- > Definition of terms
- > The network
- > Equipment in line
- > Large equipment
- > Structure of a network
- > Graphic objects
- > Elements
- > Conduits (Horizontal, vertical, slanted, drain)
- > Branches
- > Spread...

## **Specifying levels**

> The dedicated specification command

#### Create a 3D network

- > Generating it with a simple capture of the whole or parts
- > Managing **networks** (renaming, deleting...)

### **Visualisation**

- > The "window" command in your CAD software
- > Visual styles
- > Navigation commands (ViewCube, Zoom Orbit, ...)

## 3D views snapshots

- > Defining your view (visualisation and rendering)
- > Taking a snaphot
- > Positioning your shot (object space or presentation)

## **Export**

- > 3D DWG
- > 3D IFC



**Level 3** (Page 6/7)

## **DAY 5 :** Duration 7 hours

## **RVT-CONNECT – Bridge with REVIT**

- > General presentation of Revit
- > Export 2D plans from a REVIT model to AUTOFLUID
- > Export floor properties from REVIT to import them into AUTOFLUID
- > Import AUTOFLUID 3D networks into a REVIT model (3 possibilities)
- > Inserting text into your networks inside REVIT
- > Nomenclatures in REVIT
- > Detection of interferences



**Level 3** (Page 7/7)

## **Teaching methods**

Our training focuses on practical exrecise and participative demonstrations, using the software to learn by doing.

Note that the AUTOFLUID Suite is provided for the training

## **Benefits of the training**

In the case of one-to-one or small groups of the same company, the trainers adapt the programs to the specific needs of the trainees

Course documentation is provided along training sessions to help trainees follow and understand

#### Conditions of evaluation

Trainees receive validation on their training by achieving a minimum score of 16/20 on our evaluation grid. It is composed of a set of criteria that show how trainees meet the objectives of the course in exercises that simulate real life situations

Feedback from the trainees on the sessions is recorded via a questionnaire at the end of each training program

#### Access to trainees with en handicap

Please inform us of specific needs at the time of preparing the sessions