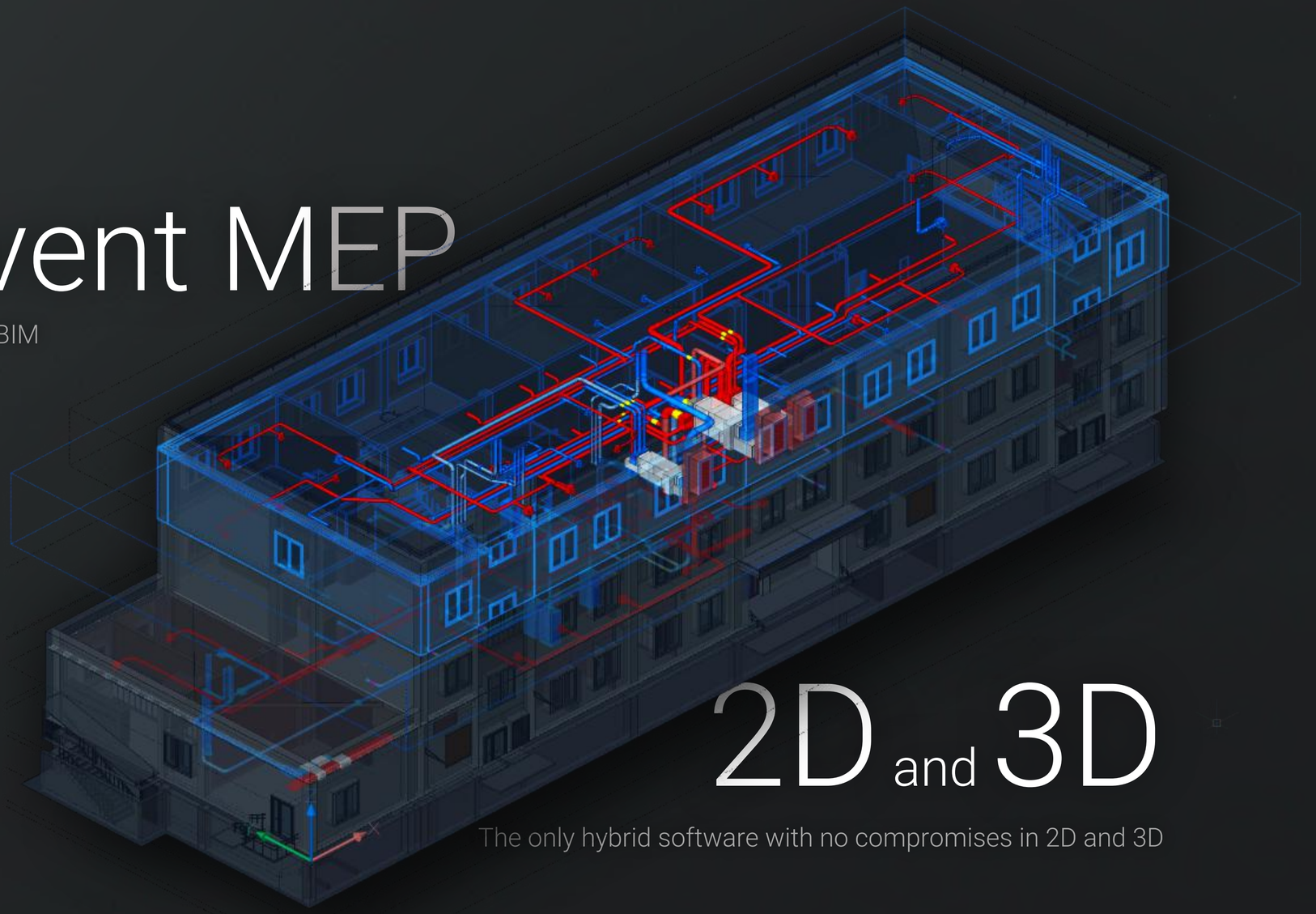
# AXON-vent MEP

Best HVAC Software. Effortless BIM



## 2D and 3D

The only hybrid software with no compromises in 2D and 3D

# MAIN BENEFITS ...you get from working in AXON-vent software

## GET RESULTS 5-7 TIMES FASTER

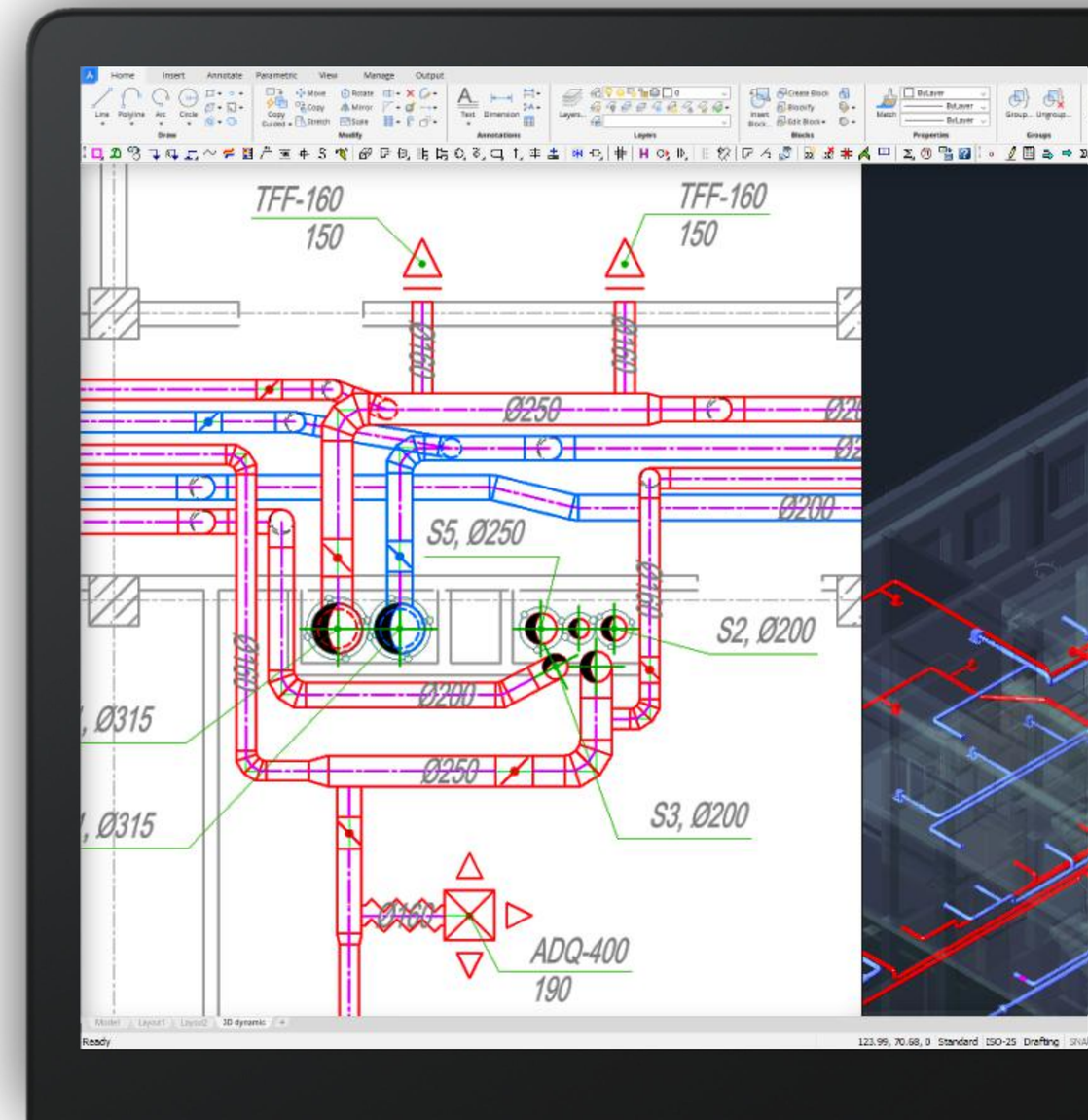
Thanks to the intelligent design automation in AXON-vent

## MAKE YOUR WORK MUCH EASIER

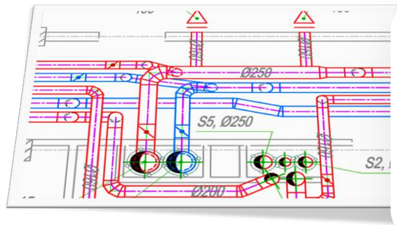
Unlike other software, AXON-vent is much easier to use, even than AutoCAD®

## IMPROVE YOUR DESIGN QUALITY

By investing most of your time in design, not in routine work



# MAIN FEATURES




## 2D

System Tracing

Duct Sizing

Air Terminals & Devices

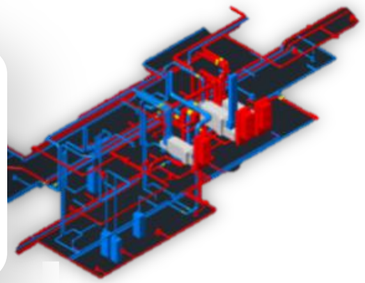
## 3D

Real-time 3D

Entire 3D Model

3D Walls from a Plan

Sections



## Schedule

Data collection for Schedule

Bill Of Materials

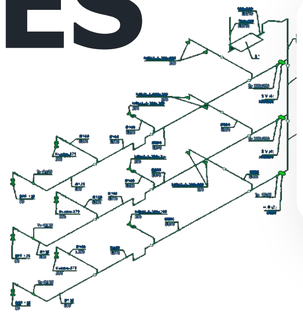
**DESIGN 5-7 TIMES FASTER**

## Calculations

Flow Summation

Pressure Drop

Automatically



## Isometry

Isometric and Axonometric Diagrams

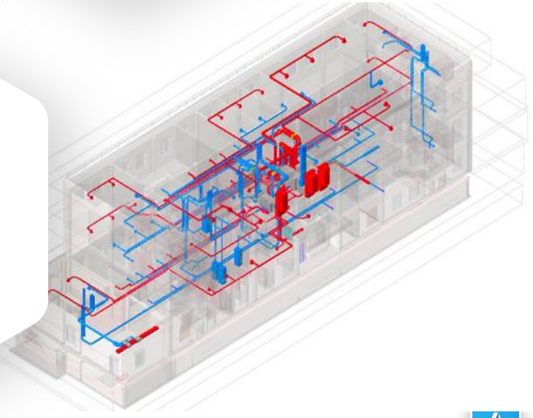
## BIM

IFC Export

Collisions

Revit® Families

Custom Devices



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# Don’t Evaluate Software By Features Only

## How to choose HVAC software that’s good for you?

If you compare software only by features, you are completely missing the point

## What to consider instead:

- ✓ Real productivity gains
- ✓ Ease of use
- ✓ Time and effort to learn
- ✓ Improvement of design quality

# Example of incorrect comparison

**Same main features, but very different products:**

| Feature | 2004 | 2021 |
|---|---|---|
| Phone calls | + | + |
| SMS | + | + |
| Applications | + | + |
| Sensor Screen | + | + |

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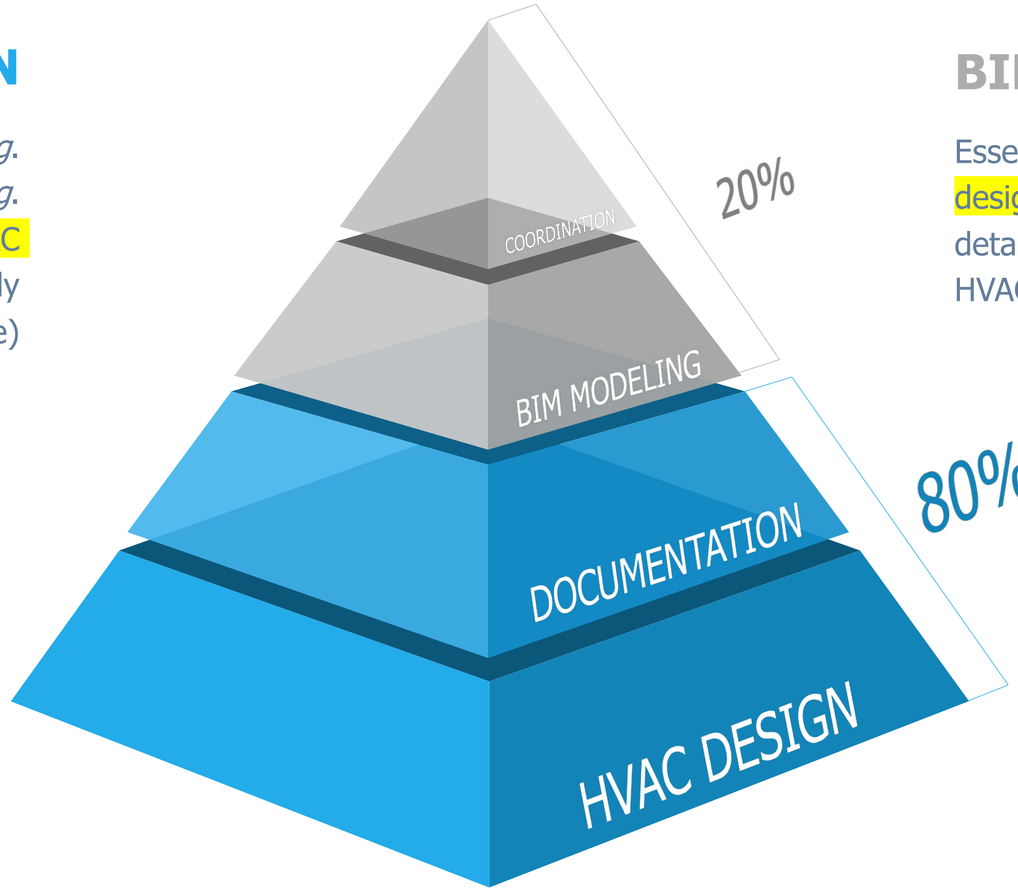
# HVAC DESIGN vs. BIM MODELING

## HVAC DESIGN

Most 2D applications *focus on drawing*. 3D and BIM applications *focus on BIM modeling*. While the most time-consuming part is the HVAC design, which requires making changes quickly and easily (as design decisions are made)

## DOCUMENTATION

It's very slow in 2D CAD without automation tools. It's painful in other 3D BIM software because it's hard to automatically generate 2D properly and manual adaptation is very time consuming




## BIM MODELING

Essentially it is the last step of the design phase. It's the process of adding details and data to already designed HVAC systems

## COORDINATION

Coordination is very important but should be planned effectively so that changes are not coordinated too frequently. Otherwise, engineers spend too much time on coordination of designs that change on later design stages as design evolves

**Unlike other software, AXON-vent is focused on HVAC design**

Documentation phase is highly automated and BIM model is created automatically

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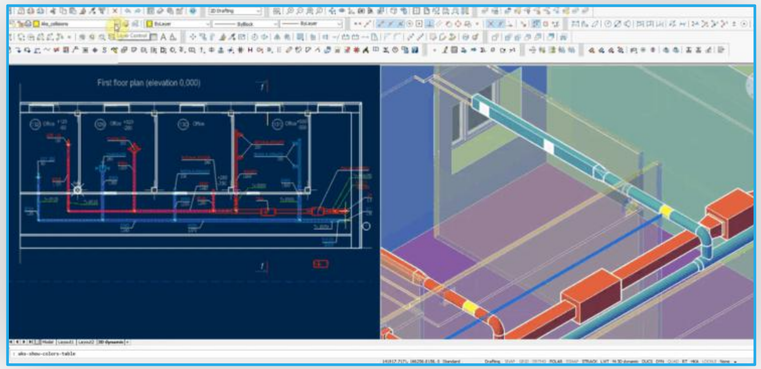
# WHY AXON-vent?

## DO MORE. WORK LESS!

### ✓IT'S EASIER. BUT BETTER

The design process in AXON-vent is radically different from the design process in other software. AXON-vent is your own intelligent assistant. You design on a 2D plan, AXON-vent understands what you have drawn and does routine work instead of you




### ✓BIM DONE RIGHT

In AXON-vent, you specify only an absolute minimum of information required at each design step, thanks to the natural workflow

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# 2D or 3D? YOUR CHOICE!

True 2D: multilines, blocks, and text

No proxy objects, drawings can be opened and edited in any dwg-compatible CAD

True 3D: solids


If you don’t have a 3D architecture, AXON-vent can create a 3D image of the walls from a 2D plan so that the ducts don’t hang in the air

## ✓2D WITHOUT COMPROMISES

Quick and easy design on the 2D plan. Draw ducts, not lines. Freedom of drawing stylization using familiar CAD tools

## ✓3D AUTOMATICALLY

Powerful 3D is at your disposal at any time. You can design solely in 2D or see 3D in real-time on the right screen. Also, you can generate 3D later and create sections automatically

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# Benefits of design in 2D

Better work performance ✓

Speed of making changes ✓

Easier to learn ✓

Easier to work ✓

## In AXON-vent you get first-class 2D

The ability to quickly deliver quality 2D documentation is critical to the success of any project, as it is a core element of construction documentation

## With AXON-vent you can have the best of both worlds

AXON-vent is the only software with a unique 2D/3D hybrid approach. You can work solely in pure 2D or get full-fledged 3D in real-time on the right screen

# Benefits of 3D model

Easier to spot design mistakes ✓

Detect collisions ✓

Required for BIM ✓

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# CALCULATIONS? DONE FOR YOU!

## ✓FLOW SUMMATION

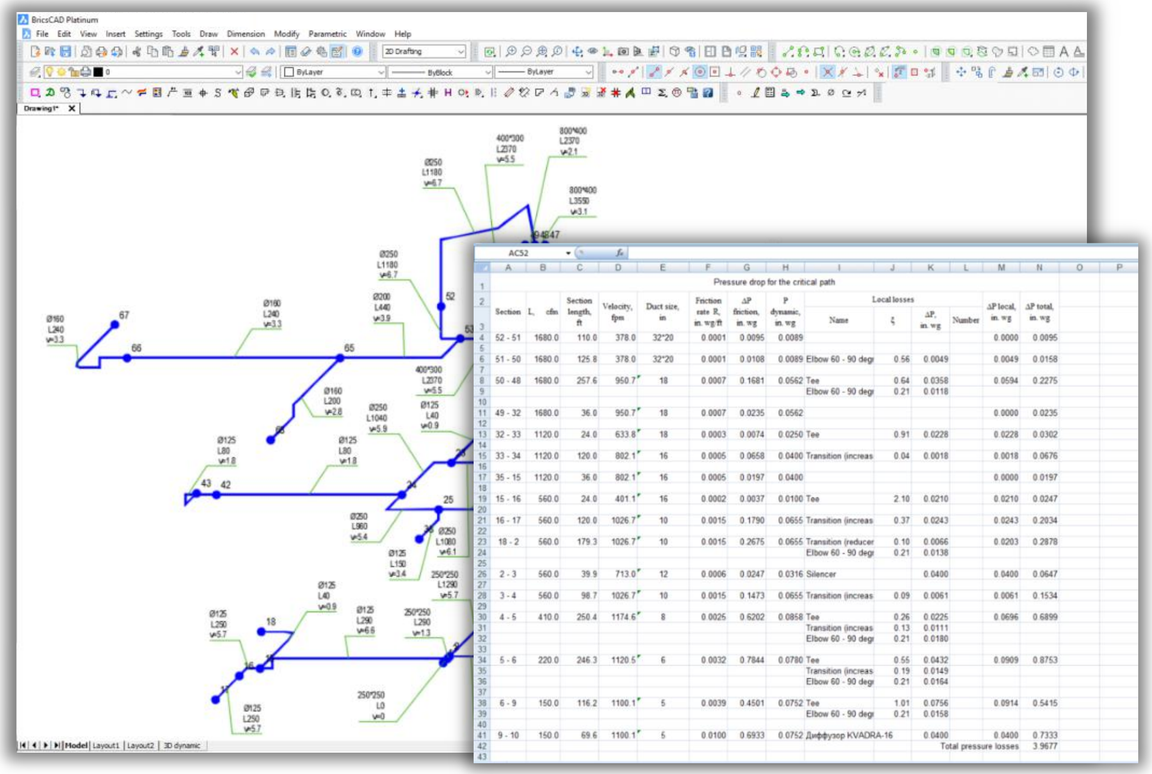
Automatic summation of air flow rates

## ✓PRESSURE DROP CALCULATION

AXON-vent automatically generates the ductwork schematics and presents the calculation results in Excel®

## ✓SCHEDULE/BILL OF MATERIALS

The data is collected automatically. Get result as a table in Excel®

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# FAST START


## Start by drawing a duct - you will be working in an hour

## Continue your current project

in AXON-vent and get an instant productivity boost

## It’s that easy

Compare this to other HVAC software that requires intensive training and learning courses

Excellent User’s Guide

Step-by-step video tutorials

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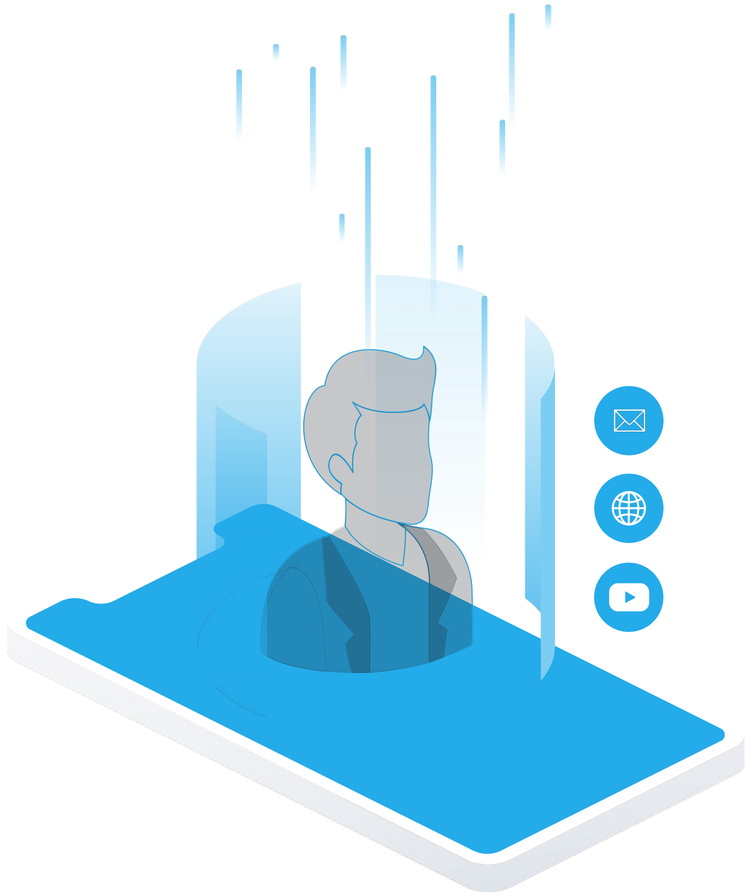
# BEST OF CLASS SUPPORT



## We have professional HVAC designers in our support team

Unlike most other vendors, we understand that it's necessary to make the best product and provide excellent support

## All your questions will be answered

We provide email support and remote assistance via TeamViewer ®. You can even send us your drawings for help with a specific issue

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# WILL AXON-vent FIT YOU?

more than **10** years

of **success** and
continuous **innovation**

## For projects and teams of any size

Great for freelancers. Great for companies

## In any industry

Users of our software have designed numerous projects ranging from civil engineering to industrial facilities and factories, as well as transport infrastructure, including subways

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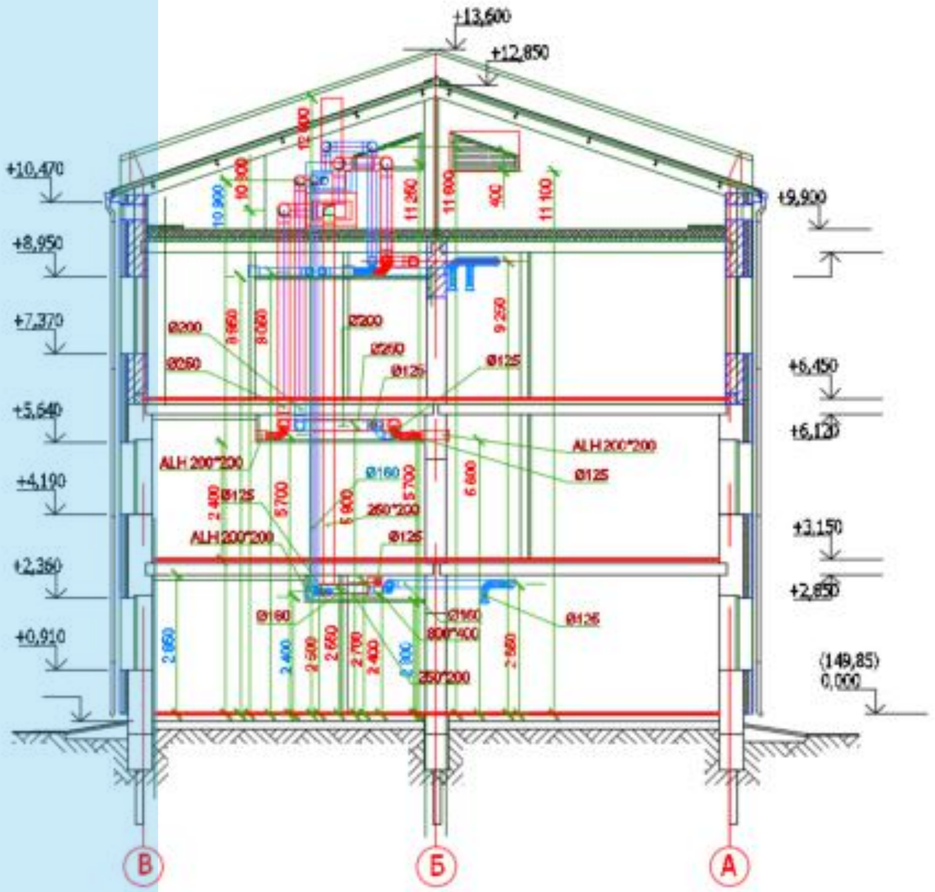
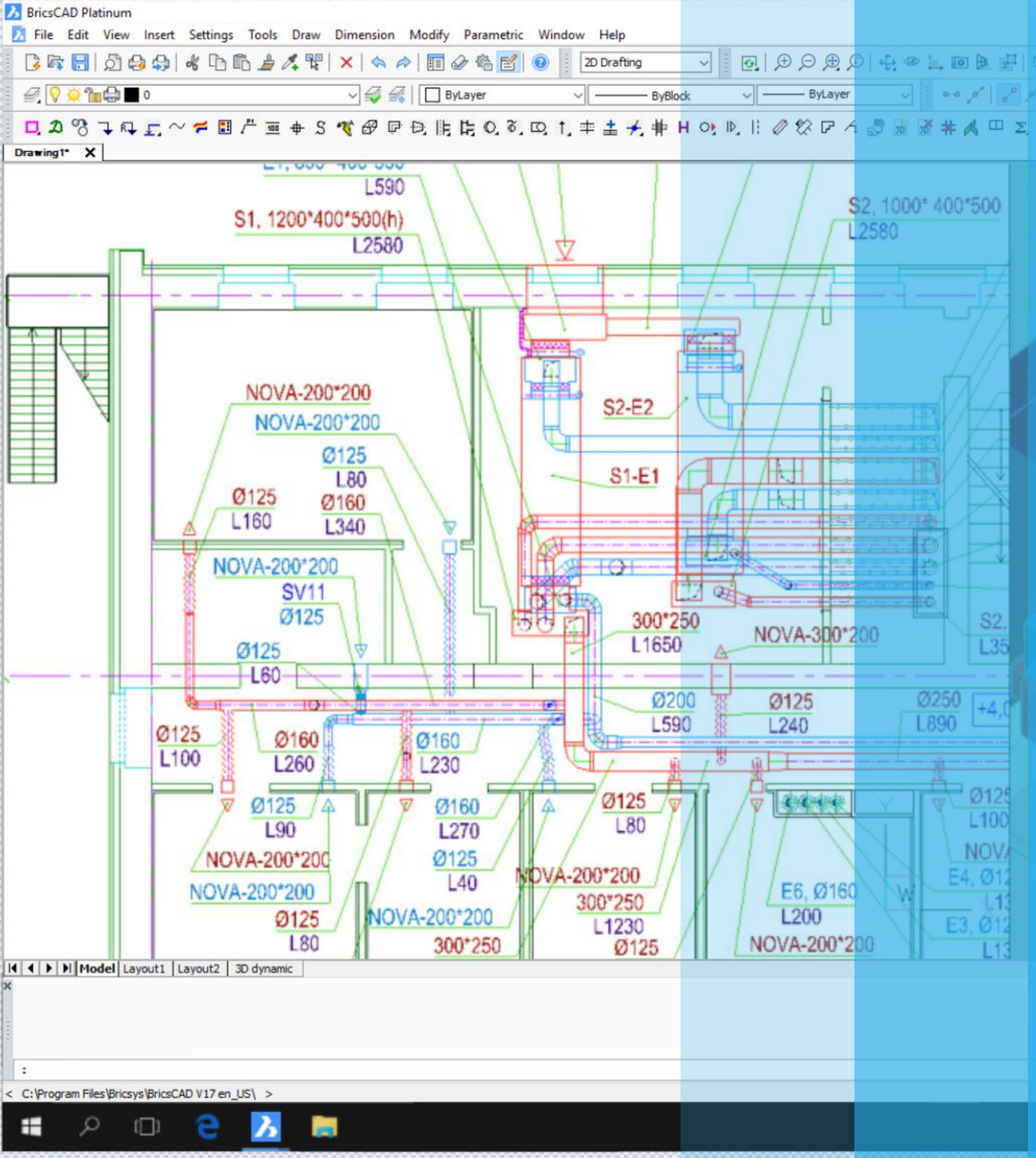
**WE HAVE BEEN USING THE SOFTWARE FOR ALMOST TWO YEARS! AXON-VENT ERASES THE BOUNDARY BETWEEN DESIGN AND CREATIVITY IN THE PROCESS OF WORK - VERY HAPPY ABOUT IT!**

- ALEX, LEAD HVAC DESIGNER -



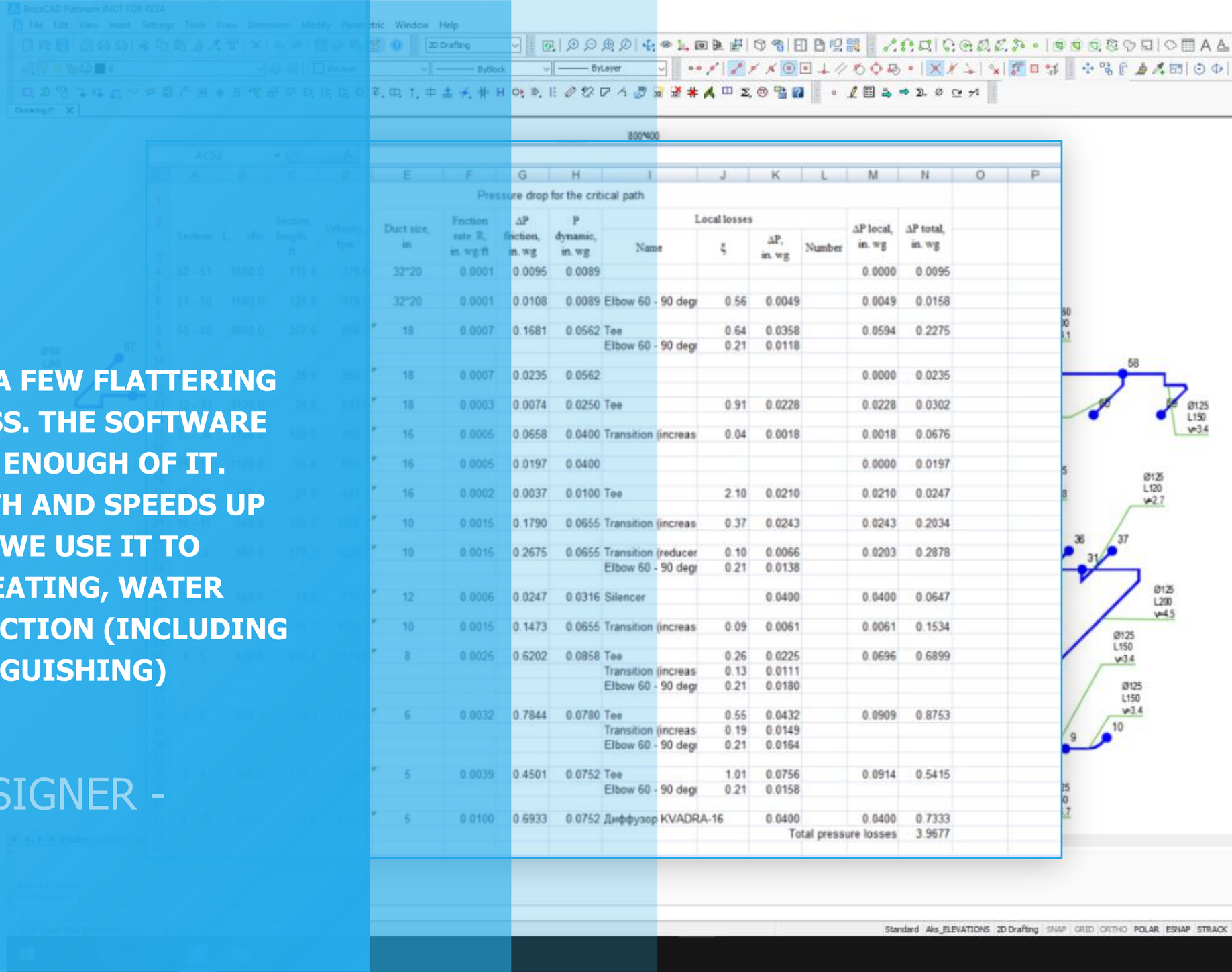



**AXON-VENT IS ESSENTIALLY THE ONLY MEP SOFTWARE THAT IS NOT OVERLOADED WITH INFORMATION AND ALLOWS YOU TO DO ROUTINE WORK REALLY QUICKLY. ALL NEW HVAC ENGINEERS LEARN QUICKLY AND HAVE NO DIFFICULTIES WITH IT**

- MICHAEL, HEAD OF HVAC TEAM -

**I CANNOT HELP BUT SAY A FEW FLATTERING WORDS TO YOUR ADDRESS. THE SOFTWARE IS AMAZING. I CAN'T GET ENOUGH OF IT. VERY EASY TO WORK WITH AND SPEEDS UP THE WORKING PROCESS. WE USE IT TO DESIGN VENTILATION, HEATING, WATER SUPPLY, AND FIRE PROTECTION (INCLUDING ALL TYPES OF FIRE EXTINGUISHING)**

- MARIA, HVAC DESIGNER -



Pressure drop for the critical path

| Duct size, in | Friction rate R, in. wg/ft | ΔP friction, in. wg | P dynamic, in. wg | Local losses: Name | ξ | ΔP, in. wg | Number | ΔP local, in. wg | ΔP total, in. wg |
|---|---|---|---|---|---|---|---|---|---|
| 32*20 | 0.0001 | 0.0095 | 0.0089 | | | | | 0.0000 | 0.0095 |
| 32*20 | 0.0001 | 0.0108 | 0.0089 | Elbow 60 - 90 degr | 0.56 | 0.0049 | | 0.0049 | 0.0158 |
| 18 | 0.0007 | 0.1681 | 0.0562 | Tee | 0.64 | 0.0358 | | 0.0594 | 0.2275 |
| | | | | Elbow 60 - 90 degr | 0.21 | 0.0118 | | | |
| 18 | 0.0007 | 0.0235 | 0.0562 | | | | | 0.0000 | 0.0235 |
| 18 | 0.0003 | 0.0074 | 0.0250 | Tee | 0.91 | 0.0228 | | 0.0228 | 0.0302 |
| 16 | 0.0005 | 0.0658 | 0.0400 | Transition (increas | 0.04 | 0.0018 | | 0.0018 | 0.0676 |
| 16 | 0.0005 | 0.0197 | 0.0400 | | | | | 0.0000 | 0.0197 |
| 16 | 0.0002 | 0.0037 | 0.0100 | Tee | 2.10 | 0.0210 | | 0.0210 | 0.0247 |
| 10 | 0.0015 | 0.1790 | 0.0655 | Transition (increas | 0.37 | 0.0243 | | 0.0243 | 0.2034 |
| 10 | 0.0015 | 0.2675 | 0.0655 | Transition (reducer | 0.10 | 0.0066 | | 0.0203 | 0.2878 |
| | | | | Elbow 60 - 90 degr | 0.21 | 0.0138 | | | |
| 12 | 0.0006 | 0.0247 | 0.0316 | Silencer | | 0.0400 | | 0.0400 | 0.0647 |
| 10 | 0.0015 | 0.1473 | 0.0655 | Transition (increas | 0.09 | 0.0061 | | 0.0061 | 0.1534 |
| 8 | 0.0025 | 0.6202 | 0.0858 | Tee | 0.26 | 0.0225 | | 0.0696 | 0.6899 |
| | | | | Transition (increas | 0.13 | 0.0111 | | | |
| | | | | Elbow 60 - 90 degr | 0.21 | 0.0180 | | | |
| 6 | 0.0032 | 0.7844 | 0.0780 | Tee | 0.55 | 0.0432 | | 0.0909 | 0.8753 |
| | | | | Transition (increas | 0.19 | 0.0149 | | | |
| | | | | Elbow 60 - 90 degr | 0.21 | 0.0164 | | | |
| 5 | 0.0039 | 0.4501 | 0.0752 | Tee | 1.01 | 0.0756 | | 0.0914 | 0.5415 |
| | | | | Elbow 60 - 90 degr | 0.21 | 0.0158 | | | |
| 5 | 0.0100 | 0.6933 | 0.0752 | Диффузор KVADRA-16 | | 0.0400 | | 0.0400 | 0.7333 |
| | | | | | | | Total pressure losses | | 3.9677 |

# AXON-vent 2D

699 EUR excl. VAT

for permanent license

The same AXON-vent powerful software, excluding 3D and BIM features

- ✓ 2D ventilation design
- ✓ Flow calculation
- ✓ Pressure drop calculation
- ✓ Isometric diagram
- ✓ Schedule/BOM data collection

Add **200 EUR**

for heating and piping in 2D

All features of AXON-vent 2D, plus:

- ✓ 2D heating and piping design
- ✓ Generating heating system plan
- ✓ Isometric diagram
- ✓ Schedule/BOM data collection

# AXON-vent 3D

1499 EUR excl. VAT

for permanent license

All features of 2D version, plus:

- ✓ 3D ventilation design
- ✓ Sections
- ✓ Export the whole building in 3D

Add **400 EUR**

for heating and piping in 3D

All features of AXON-vent 3D, plus:

- ✓ 3D heating and piping design
- ✓ Generating heating system plan
- ✓ Isometric diagram
- ✓ Schedule/BOM data collection

# AXON-vent BIM

1999 EUR excl. VAT

for permanent license

All features of 3D version, plus:

- ✓ Export to BIM standard IFC files
- ✓ Custom 3D devices
- ✓ Revit® RFA families conversion service*

* Terms apply

Add **400 EUR**

for heating and piping in 3D

All features of AXON-vent BIM, plus:

- ✓ 3D heating and piping design
- ✓ Generating heating system plan
- ✓ Isometric diagram
- ✓ Schedule/BOM data collection

# Why are most HVAC applications so complicated?

**CREATED FOR ARCHITECTS**, not HVAC designers. It's almost impossible to develop one-fits-all software that is equally good for architects, HVAC designers, and other engineers

**MODELING-ORIENTED**, instead of design-oriented

**THIS RESULTS IN AN UNNATURAL DESIGN WORKFLOW**

# AXON-vent is radically different!

**It's an incredibly productive and easy-to-use hybrid 2D and 3D MEP design software**

Built from the ground up over a ten-year period, every tool, feature, and button has been developed with the needs of professional HVAC designers in mind. AXON-vent is highly cost-effective software that guarantees a very high return on investment

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# SUMMARY

## 1. Simplicity

It couldn't be easier

Go from sketch to project, entering only an absolute minimum of information at each step

## 2. 2D/3D

Your choice

You can work in 2D only or use dynamic 3D split-view. AXON-vent can automatically create 3D later if you want

## 3. .DWG

No proxy objects

AXON-vent creates plain dwg files, that can be freely opened and edited. Use any dwg-compatible CAD application

## 4. Drawings

Style freedom

You can use all your CAD drawing features: fonts, colors, layers, etc. to style and manage your drawing

## 5. Files

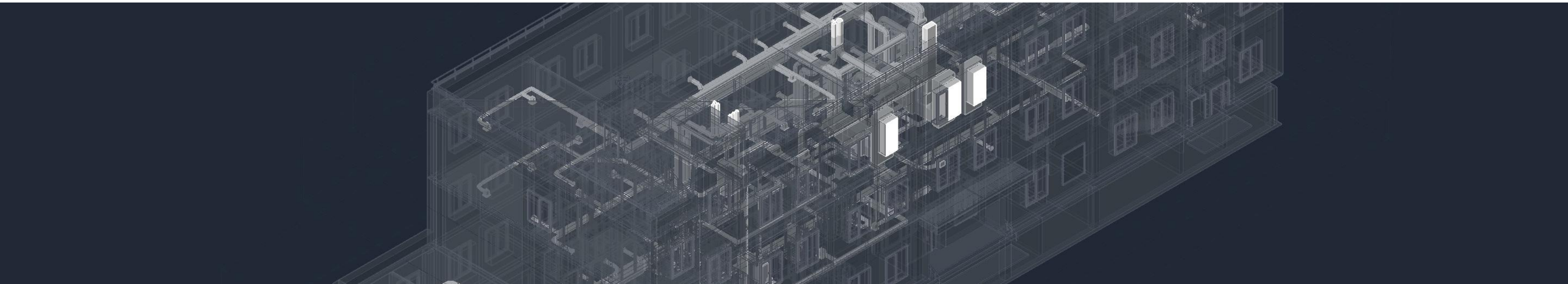
Work the way you want

Metric or Imperial system. You can have all floors of your project in a single drawing or multiple drawings

## 6. Hardware

No special requirements

If your computer can run your CAD, it can run AXON-vent for sure



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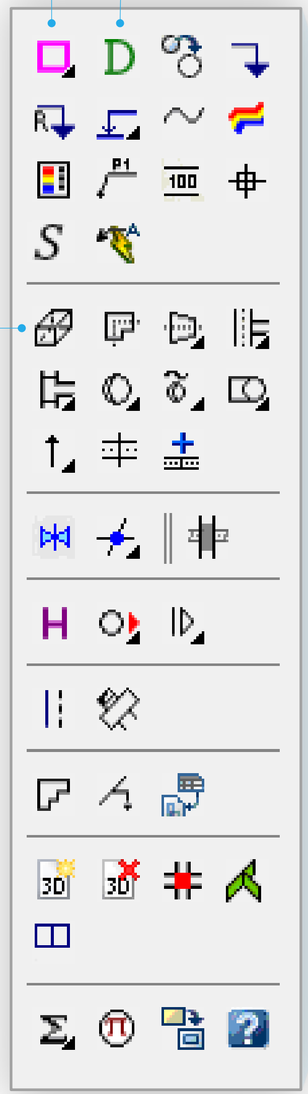
# DEMONSTRATION

# DUCT SYSTEM TRACING

Set duct type: Round / Rectangular / Flex

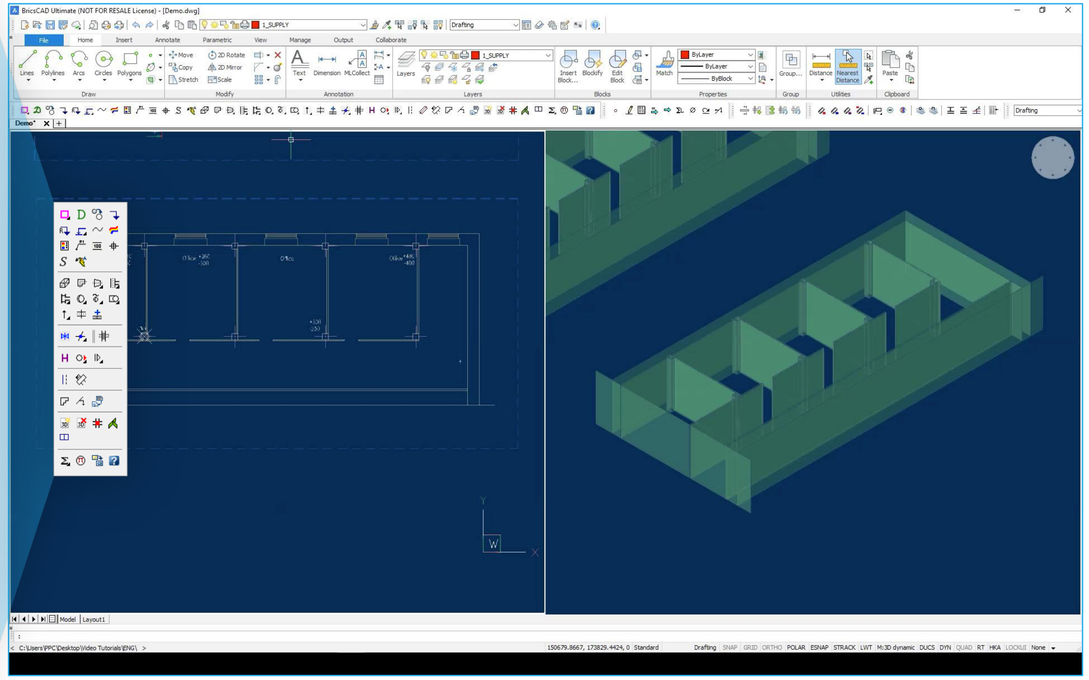
Set duct diameter / size

Draw a duct



## Use simple and intuitive buttons

To draw ducts, air terminals, and devices, etc.



## You can work in meters or feet and inches

Just select corresponding units system

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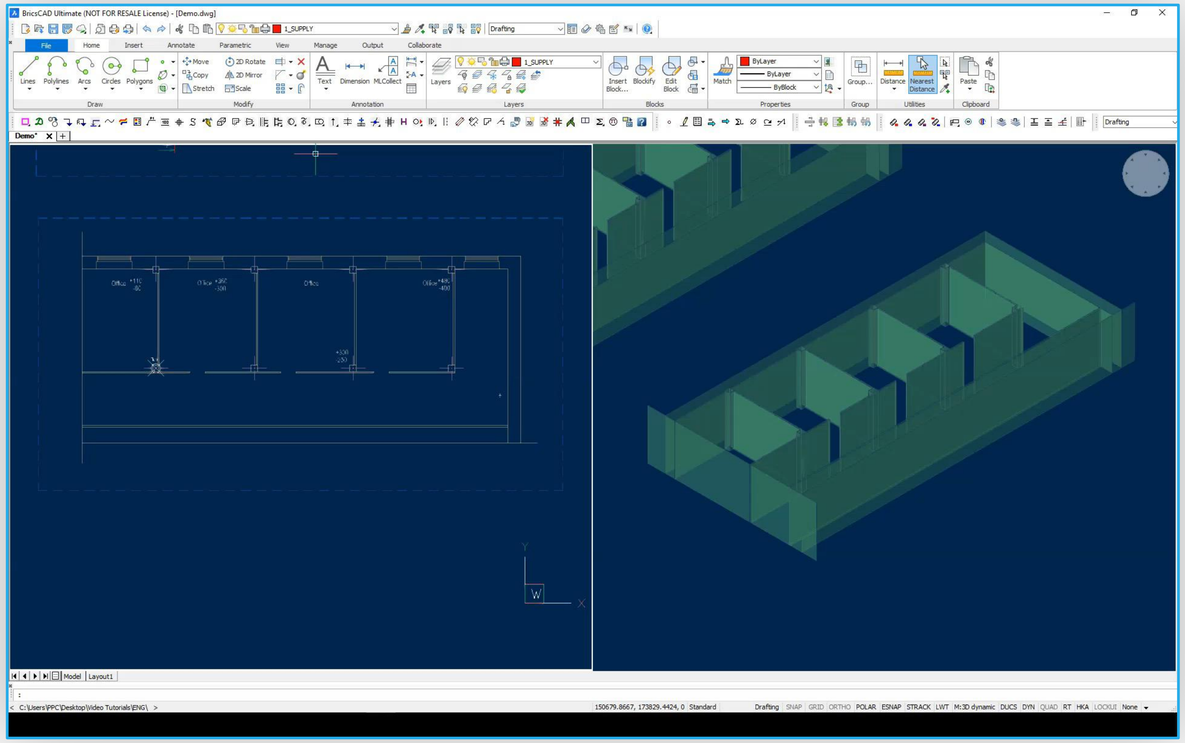
# DUCT TRACING
# Demonstration Video




Click to play video online

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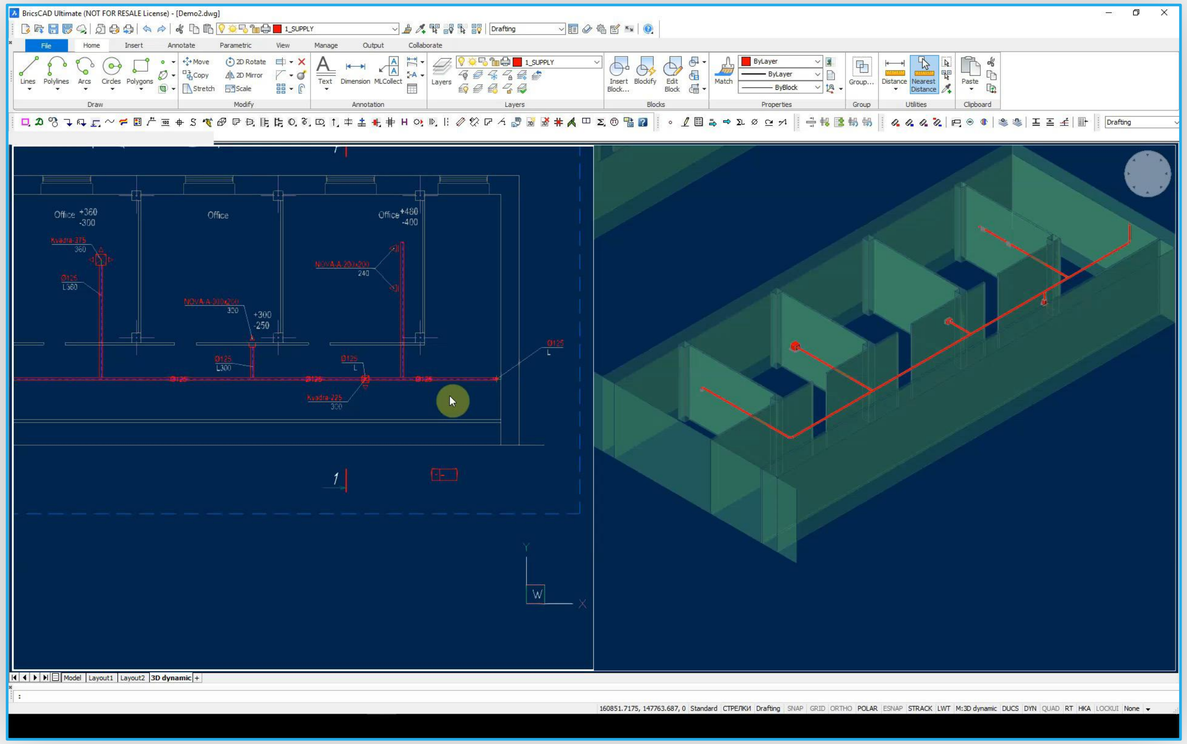
# DUCT SIZING AND ADDING DEVICES

## Demonstration Video

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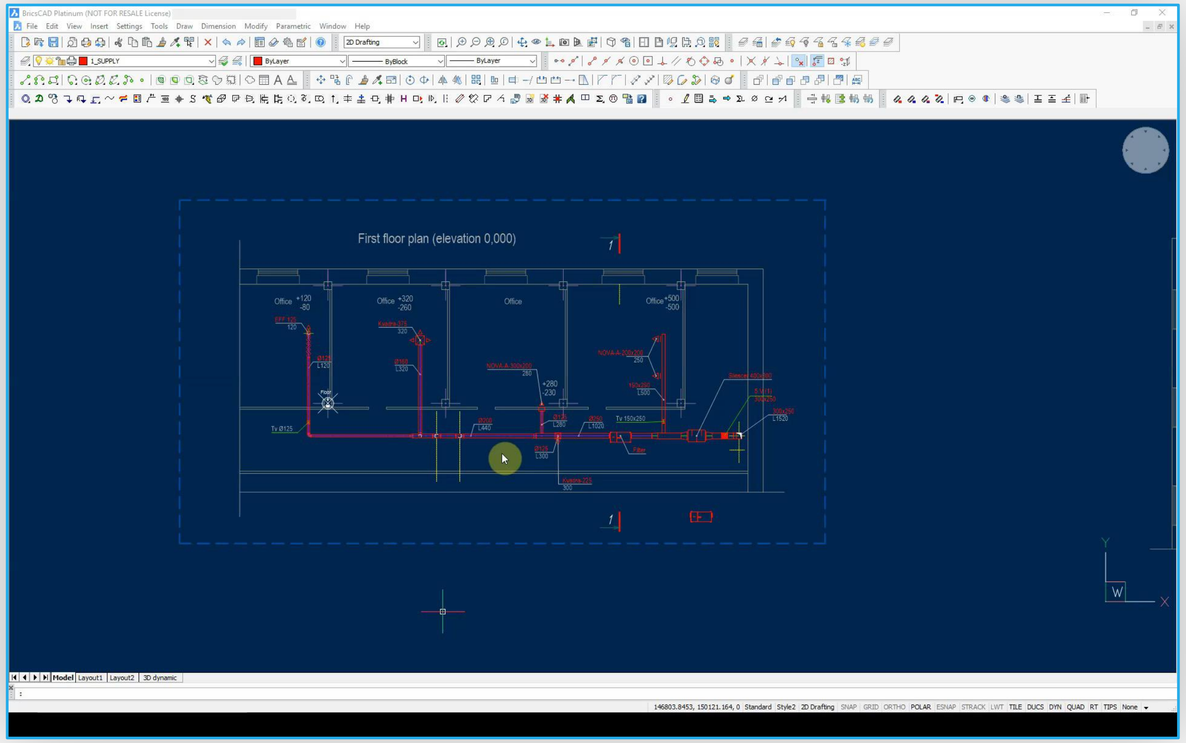
# ISOMETRIC DIAGRAM
# Demonstration Video

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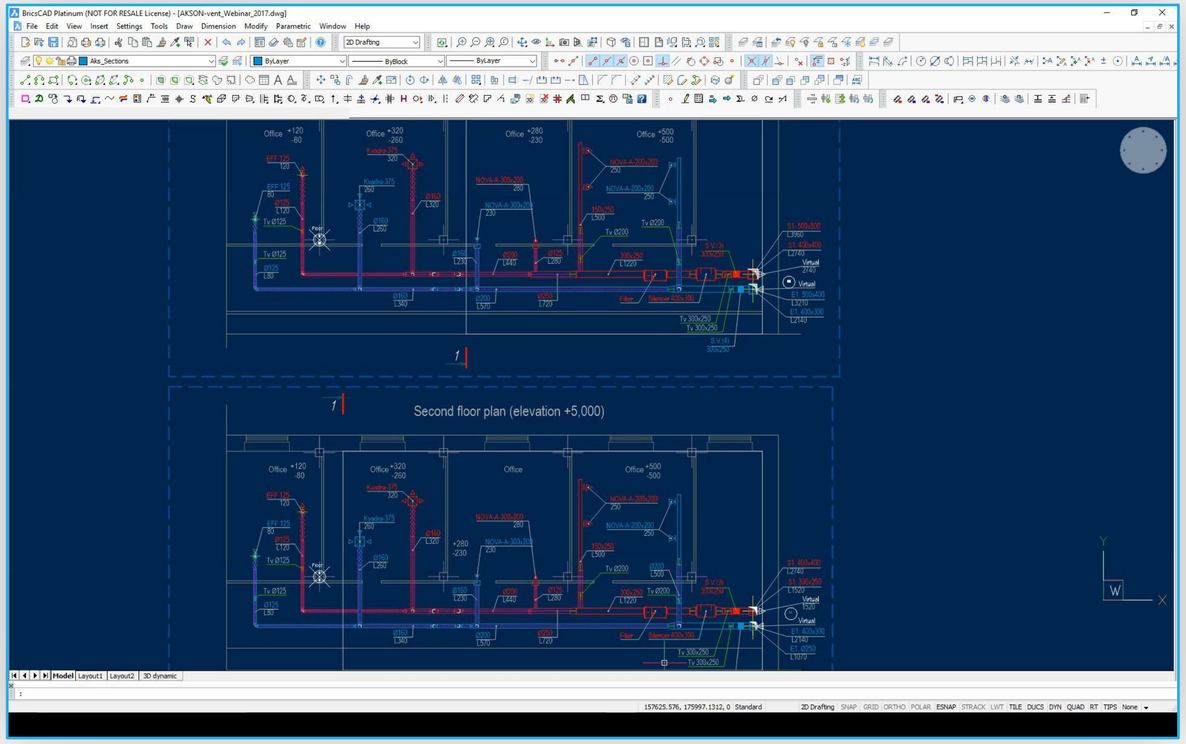
# PRESSURE DROP CALCULATION

## Demonstration Video

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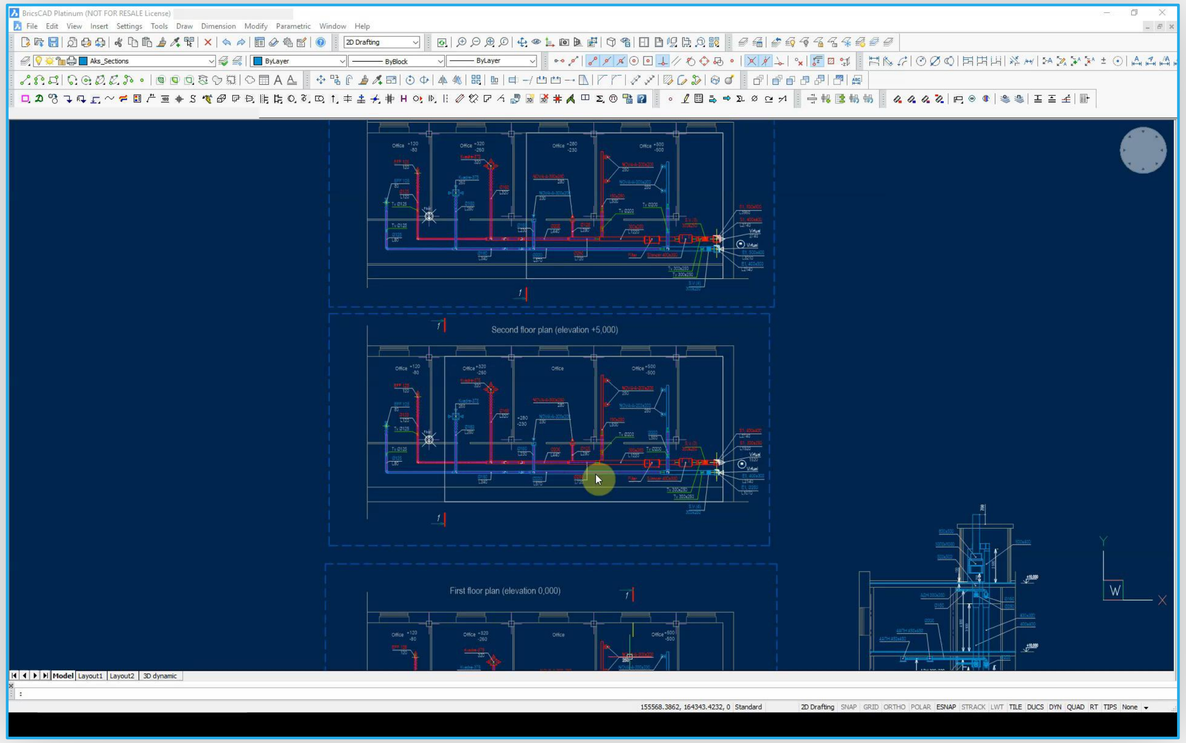
# SCHEDULE/BOM
# Demonstration Video

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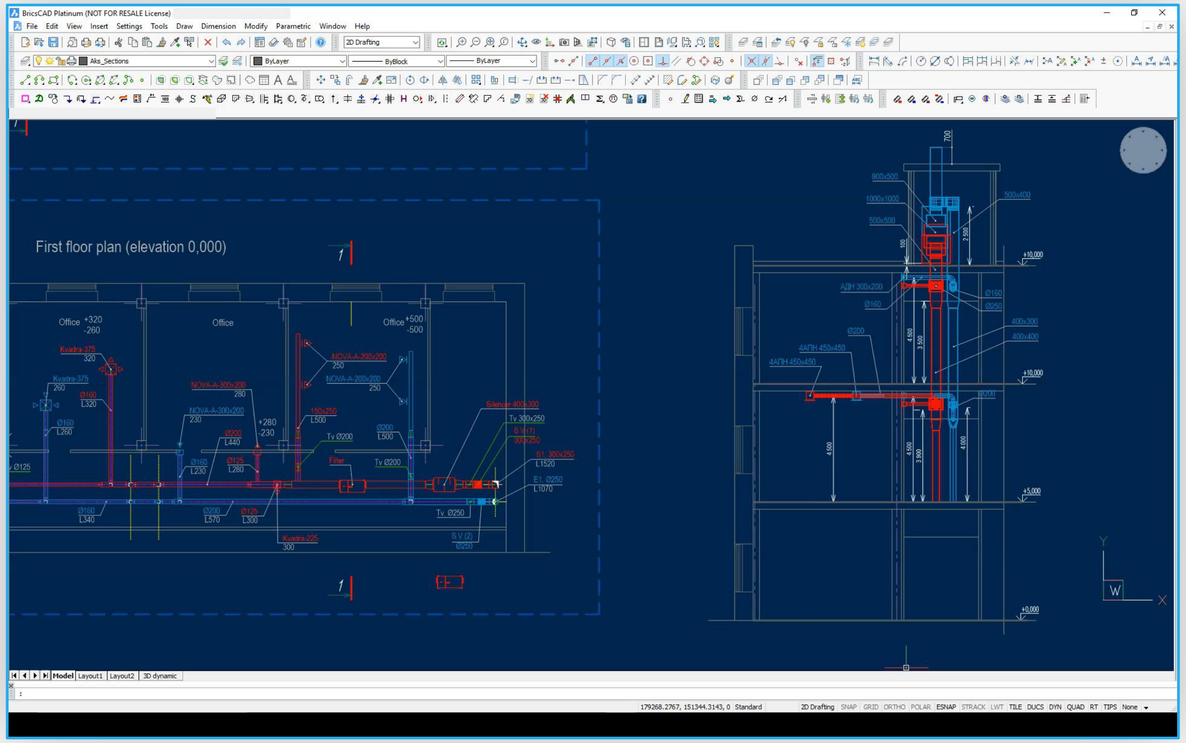
# CREATING SECTIONS
# Demonstration Video

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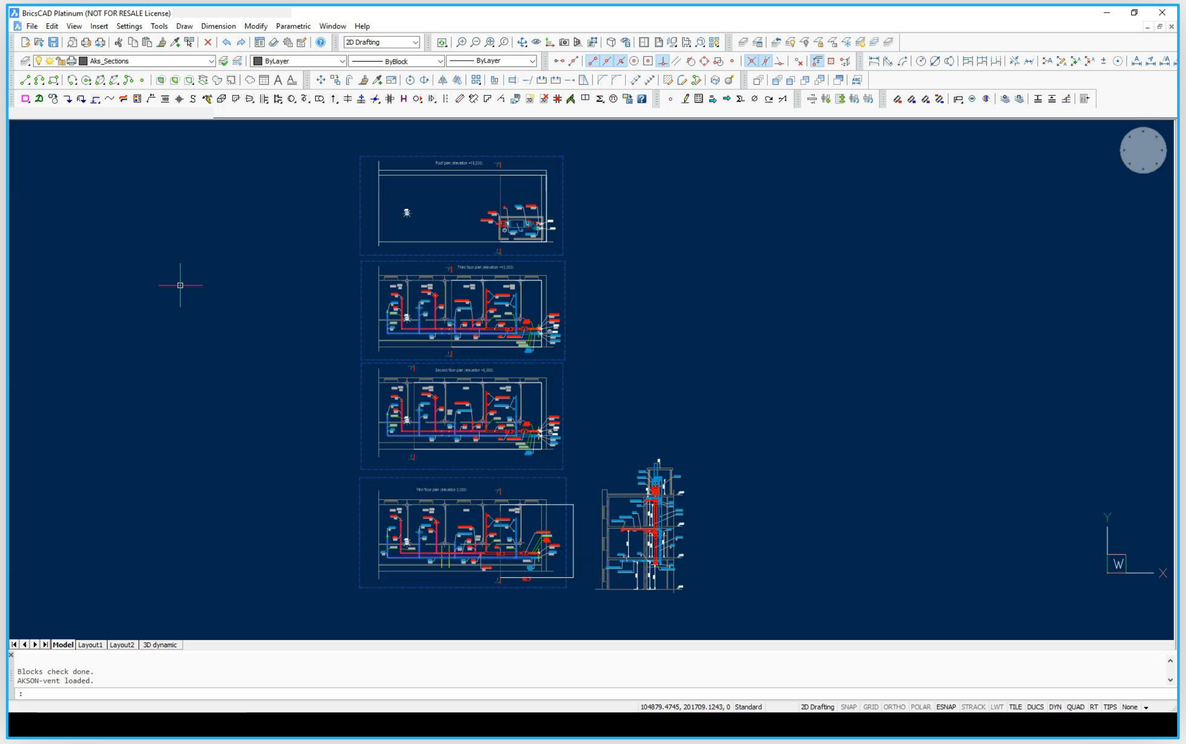
# EXPORT OF 3D AND BIM MODEL
# Demonstration Video

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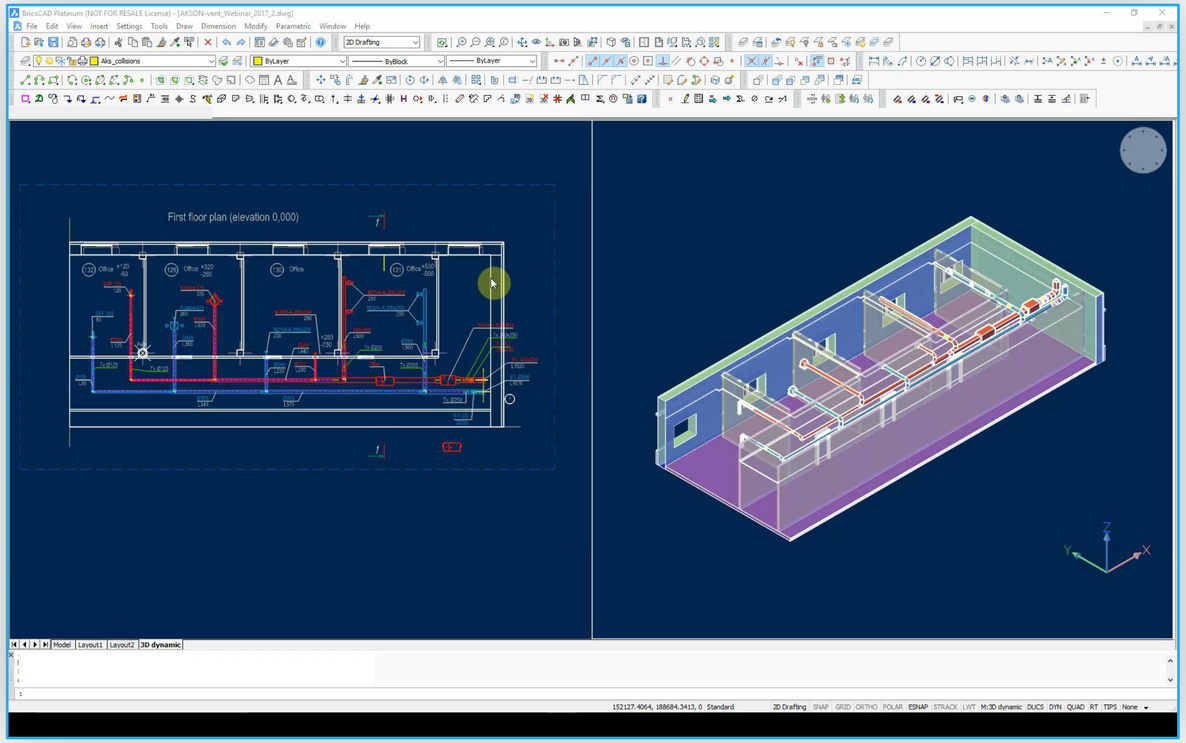
# CHECKING FOR COLLISIONS
# Demonstration Video

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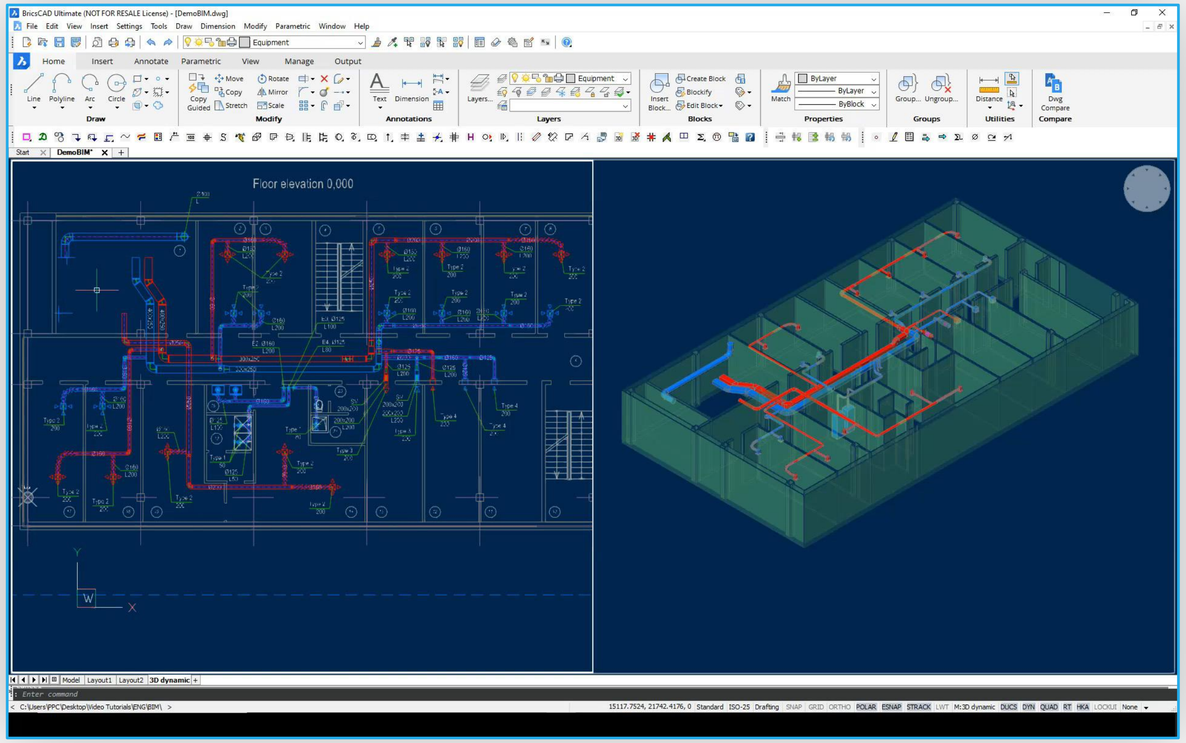
# USING REVIT FAMILIES
# Demonstration Video




Click to play video online

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# THANK YOU!

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