LINEAR

THE BIM ENGINEERING SOFTWARE

AUTODESK AutoCAD

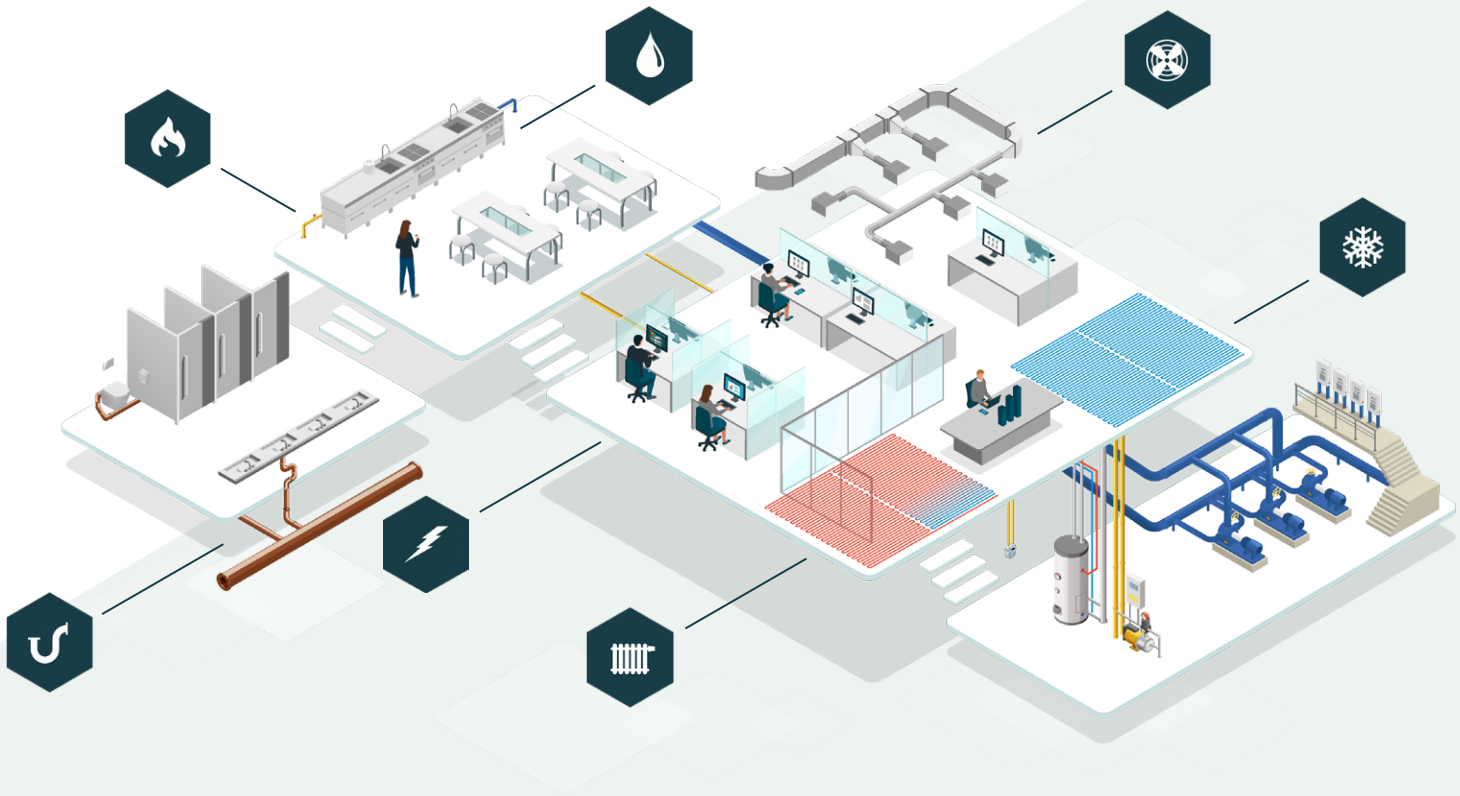
LINEAR CADINSIDE



LINEAR SOLUTIONS FOR AUTOCAD AND LINEAR CADINSIDE

THE SOLUTION FOR YOUR MEP DESIGN

DESIGN | CALCULATION | SIMULATION | COORDINATION | COLLABORATION



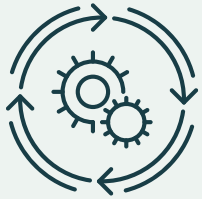
Solutions for all disciplines from a single source

The LINEAR Solutions offer you suitable workflows for each discipline and all tools for your MEP design from a single source. Benefit from interface-free project processing with a reliable software partner.

Reliable calculations and design tools

Use our technical calculations as well as our CAD tools for optimal results in your work and design energy-efficient buildings. Even complex systems using the latest industry product solutions can be realized without any problems.

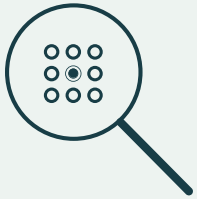
WHY LINEAR?



Consistent workflow
Guided workflow
Direct access to the right features
Collaboration tools
Extensive support for getting started



Integrated solution
Working without interfaces
All information stored in the model
Powerful calculations
Transparent results



Maximum depth of detail
Realistic designs
State-of-the-art systems & components
Verified manufacturer data sets
Verified CAD libraries



Free choice of license
Purchase or rent
Single user and network licenses
Subscription and updates
Internal license management



Optimally managed
Central installation & updates
Shared libraries & templates
Easy synchronization
Direct data backup in the project



Perfect service
Free e-learning content
Online help & Knowledge Base
Reliable support
Idea Channel for new features



We use LINEAR in combination with both AutoCAD and Revit. The software helps us to perform calculations and draw models for heating, cooling, potable and waste water. For example, the possibilities brought by the scheme generator increase our efficiency and the function of mass determination for panel heating improves our accuracy.

Quote from Michaels Fuchs, DDI
Ingenieurbüro Lang GmbH

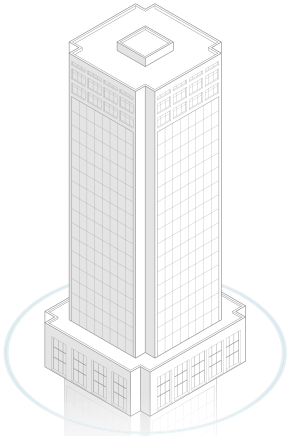
LINEAR WORKFLOW

From your first concept to the construction design

LINEAR offers a comprehensive solution that provides you with optimal support across all design phases. From the initial concept, through model creation and design of all disciplines, including calculation and optimization, to construction design and transfer of the results to tender and fabrication.

Workflow instead of workaround

An integral workflow is crucial for economical and detailed results. We do not provide you with a loose collection of tools, but with the ideal solutions to avoid duplicate work and enable consistent development of your project. Direct integration with AutoCAD and LINEAR CADinside and the associated avoidance of error-prone interfaces ensures reliable results.

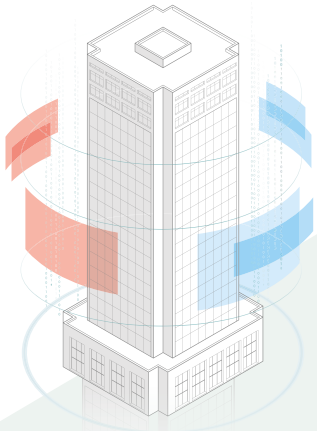


1. SCHEME PLANNING AND PREPARATION OF ARCHITECTURE →

CONCEPTUAL DESIGN IN THE SCHEME AND PREPARATION OF THE ARCHITECTURE

Input: Architectural plan
Output: Scheme and MEP optimized model

Workflow:
- Creating a storey table
- Manual scheme creation with toolbars and specific editing commands
- Scheme generator for drag and drop and automated drawing
- Creation and enrichment of the architecture
- Creating first views and plans

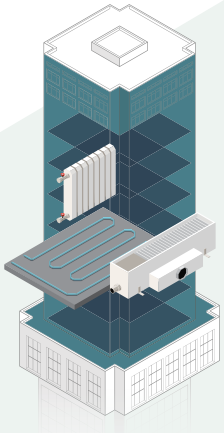


2. BUILDING ANALYSIS AND LOAD CALCULATION →

AUTOMATIC BUILDING DETECTION AND ANALYSIS FOR LOAD CALCULATION

Input: MEP optimized model
Output: Heat load, Cooling load

Workflow:
- Building detection from CAD
- Automatic building analysis as basis for all load calculations
- Automatic mapping of the building structure (building parts, storeys and rooms)
- Identification and collaborative correction of modeling errors
- U-value calculation and completion of missing calculation parameters
- Automatic load determination for the project, the storeys as well as for all rooms
- Transfer of all relevant values into the model



3. DIMENSIONING →

SYSTEM SELECTION AND OPTIMIZED DIMENSIONING OF ALL COMPONENTS

Input: Heat load, Cooling load
Output: Model with dimensioned components

Workflow:
- Design and dimensioning of radiators, convectors and panel heating/cooling systems based on load calculations
- Comparison of variants from different manufacturers
- Automatic or manual placement of components into the model
- Bidirectional adjustments in the model or in the dimensioning

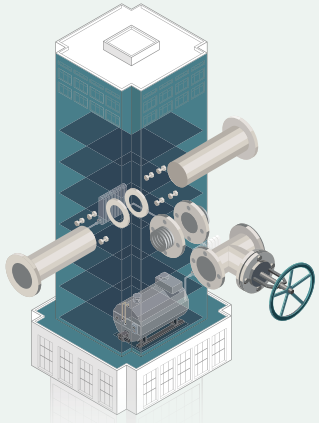


4. NETWORK DESIGN, CALCULATION & COLLABORATION

SYSTEM AND NETWORK DESIGN, CALCULATION & REDIMENSIONING

Input: Model with dimensioned components
Output: Model with optimized systems

Workflow:
- Pipe and duct network design
- Automatic connection of all consumers
- Neutral system design, or with the help of extensive manufacturer CAD libraries
- Comparison of variants from different manufacturers
- Specification of calculation-relevant requirements
- Network calculation and redimensioning
- Visualization of all results in the model
- Void planning including coordination with other project participants



5. 3D-MODELING

OPTIONAL CREATION OF A 3D MODEL INCLUDING CONSTRUCTION DESIGN

Input: Model with optimized systems
Output: Detailed 3D model

Workflow:
- Generate a 3D model based on a single-line pipe network
- Insertion of components with suitable transitions and flanges in existing systems
- Automatic screw fitting
- Predefine insulation materials
- Assign item numbers manually or automatically
- Creation of material and parts lists with item numbers, fabrication and position lists
- Coordination with other trades
- Collision check and correction



6. FINALIZATION AND OUTPUT OF RESULTS

AUFMASS, BESCHRIFTUNG UND ERGEBNISAUSGABE

Input: Detailed model (in 3D on request)
Output: MEP model and result output

Workflow:
- Saving all inputs and calculation results in the model
- Publication of selectable values as component data
- Automatic labeling of the model
- Addition of user defined parameters and meta data
- Printout of the results in standardized forms
- Transfer of results and model in all relevant formats

LINEAR CADINSIDE

As an interesting alternative to the widely used AutoCAD installations, our solution is also available as a stand-alone LINEAR CADinside variant. With integrated CAD functionality from Autodesk. If you only want to use individual modules of our comprehensive solutions, the variant with integrated CAD core may be the most economically sensible solution. The software can be operated identically in both program variants and is of course 100% compatible.

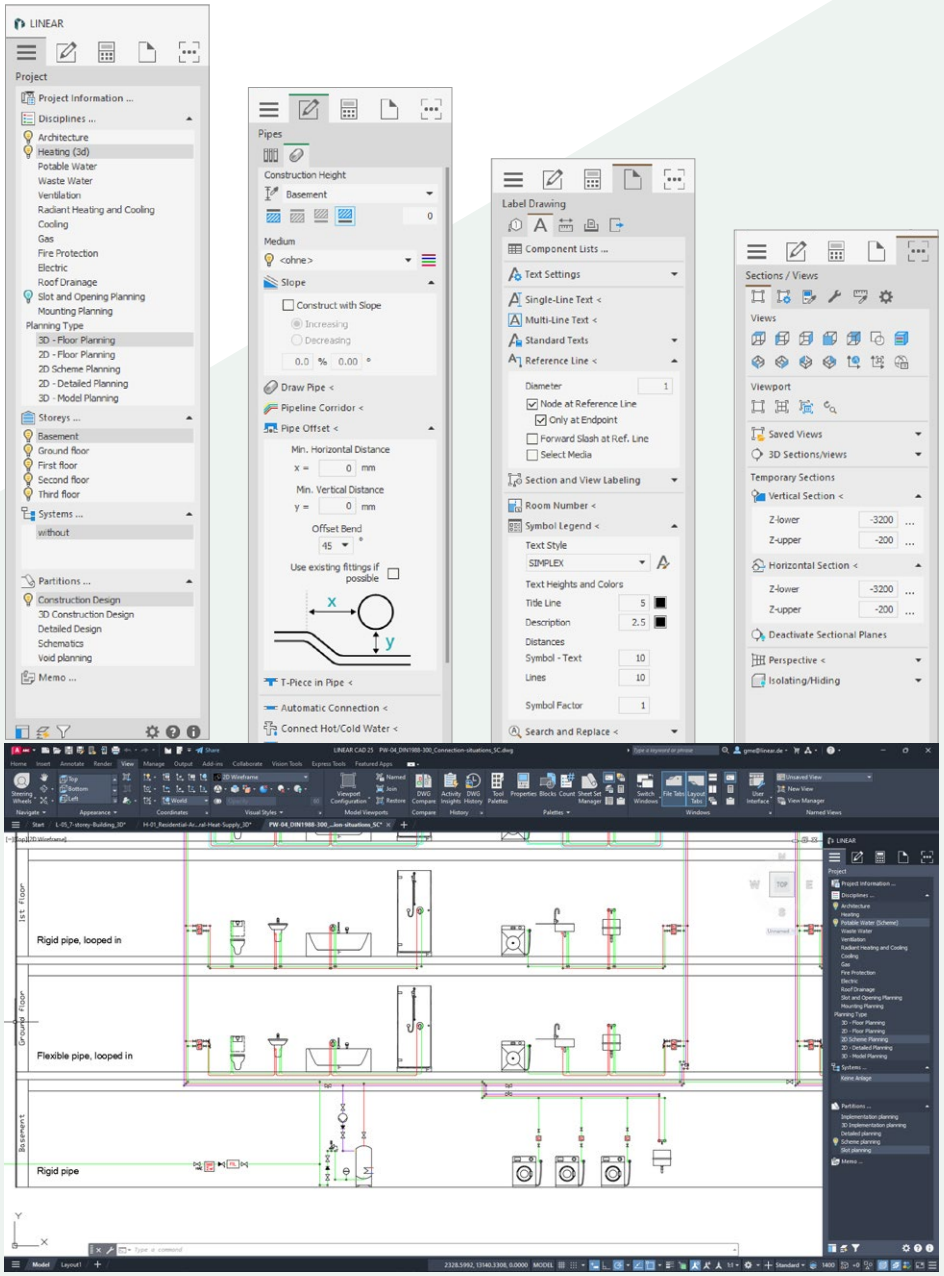
LINEAR CADINSIDE

LINEAR DESKTOP

CONSTRUCTION | VIEW CONTROL | LIBRARIES | COLLABORATION

DESKTOP HEATING
DESKTOP WATER
DESKTOP VENTILATION
DESKTOP ELECTRIC
DESKTOP ADDON TOOLS
DESKTOP ADDON SIPHONIC

From the first concept to construction design, LINEAR Desktop is the design engine for all disciplines. It features an user interface which speaks your language and which supports your design procedures optimally. With standardized symbol libraries, scheme generators and high-performance set of construction aids you can quickly design circuit schemes, pipe run schemes, floor plans, intersections and details. With LINEAR's extensive manufacturer libraries, your detailed drawings become exact with the push of a button and ready-to-order material lists can be generated.



FEATURES

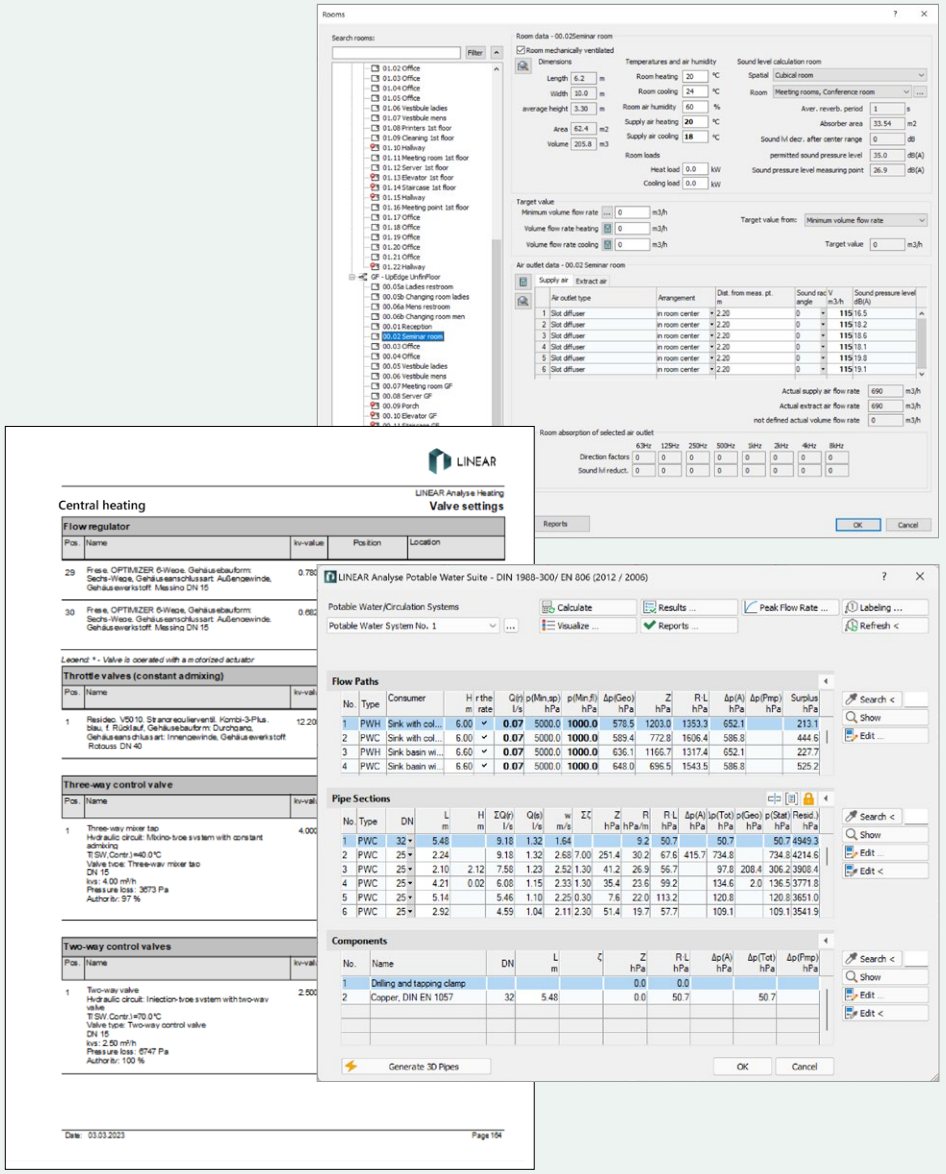
- LINEAR Control Board including all relevant functionalities in quick access
- Support of all view types
- Scheme generator
- Symbols for the disiplines heating, potable water, waste water, ventilation, cooling, gas, electrical and architecture (freely expandable)
- Dwelling & decentralized fresh water stations
- Pipe routing and pipe commands with automatic detection of media and distances
- Animated hydraulic assistant for the creation of hydraulic circuits
- Automatic connection and auto-routing for minimizing time and effort
- 2D piping design and 2D manifold generator for detailed design
- Work on 2D and 3D underlays: DWG, DXF, PDF, JPEG, PNG, etc. including design assistant for roof constructions
- Automatic legends
- Void planning
- Parts lists with short and long texts

LINEAR ANALYSE

NETWORK CALCULATION | REDIMENSIONING | LABELING

ANALYSE HEATING
ANALYSE COOLING
ANALYSE POTABLE WATER
ANALYSE WASTE WATER
ANALYSE VENTILATION
ANALYSE GAS
ANALYSE SIPHONIC

The analysis and optimization of the MEP systems is certainly the most challenging task for MEP designers. The LINEAR network calculations provide reliable and standard-compliant hydraulic and sound level related results in every design phase. They thus provide important decision aids for the further design process at any time. All calculations are perfectly integrated into the workflow. The visualization of the results enables an evaluation directly in the model. Detailed input options for boundary conditions and components of all types make LINEAR pipe and air duct network calculations a reliable tool for your MEP design.



Features

- Calculation directly in the model including redimensioning
- Hydraulic and acoustic calculations with maximum level of detail
- Calculation of several systems in one model
- Calculation with products of several pipe manufacturers in one system
- Selection of suitable (manufacturer) components based on the results of the calculations
- Saving of calculation results directly in the drawing with optional consideration for IFC export
- Transparent calculation results as well as complete bills of quantity
- Interface for valve data sets, shut-off valves, differential pressure closed-loop controllers, volume flow closed-loop controllers, regulating valves, control valves and fixed resistors
- Visualization of results using LINEAR Data Coloring (dimensions, materials, velocities, unfavorable flow path, and many more)
- Automatic labeling
- Output of results in ready-made forms

LINEAR BUILDING

BUILDING ANALYSIS | HEAT LOAD CALCULATION | COOLING LOAD CALCULATION

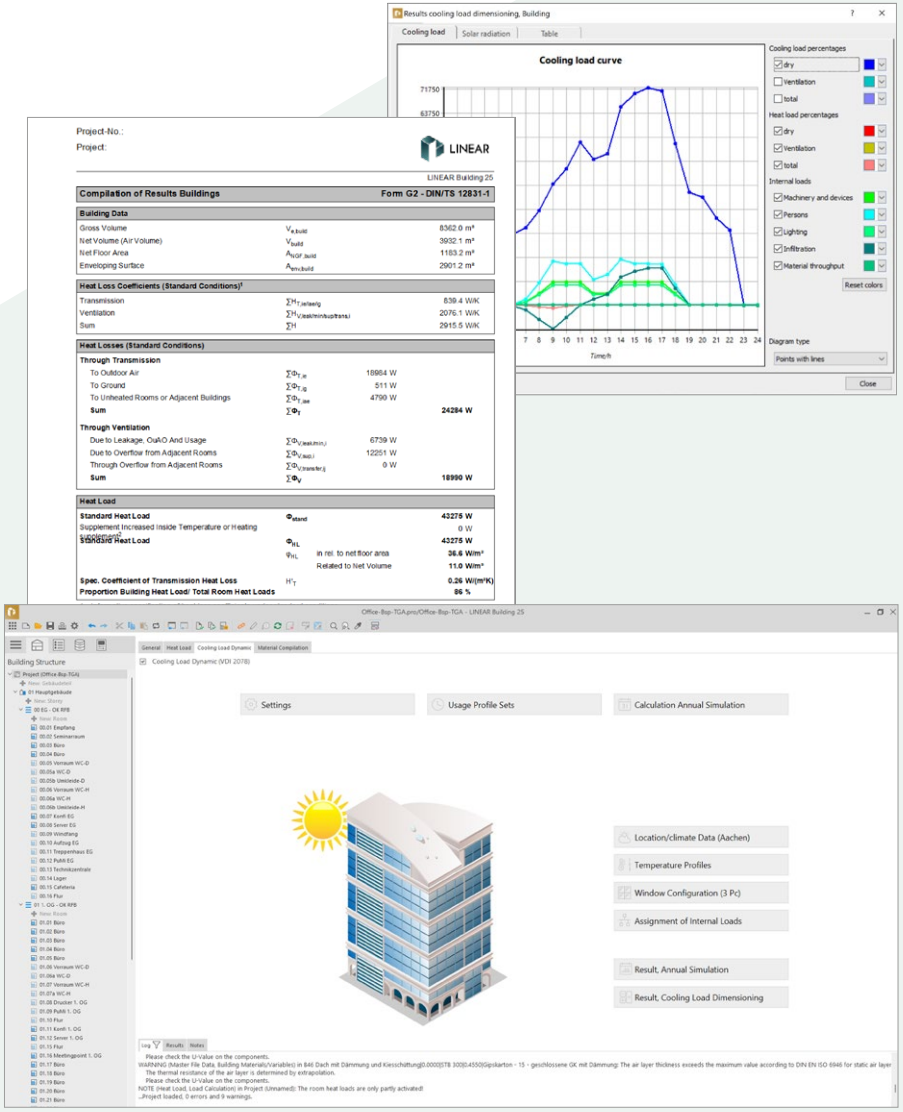
BUILDING HEATING

BUILDING COOLING DYNAMIC

BUILDING ANALYSE

BUILDING TASK

Whether heat or cooling load calculation: LINEAR Building delivers reliable results fast. Use the powerful building analysis with all data already available in the model for your load calculation. Alternatively, manual entry is available for a capture. With building material tables and integrated U-value calculation, with global variables and your own project templates, you reduce the time required for the energy analysis of the building to an absolute minimum. A detailed dimensioning of system components such as radiators or panel heating and cooling systems on the basis of real products leads to complete parts lists for the creation of bills of quantities.



FEATURES

- Automatic transfer of all building sections, storeys, rooms and room components incl. room temperatures and adjacent temperatures directly from the model
- Quick and easy U-value calculation
- Heat load calculation
- Dynamic cooling load calculation
- Dimensioning of radiators/convectors
- Dimensioning of panel heating and cooling systems
- Transfer and automatic drawing of the dimensioned components into the CAD system including labeling
- Extensive catalog of manufacturer datasets for dimensioning
- Direct navigation between LINEAR Building and Autodesk AutoCAD and LINEAR CADinside
- Complete material lists

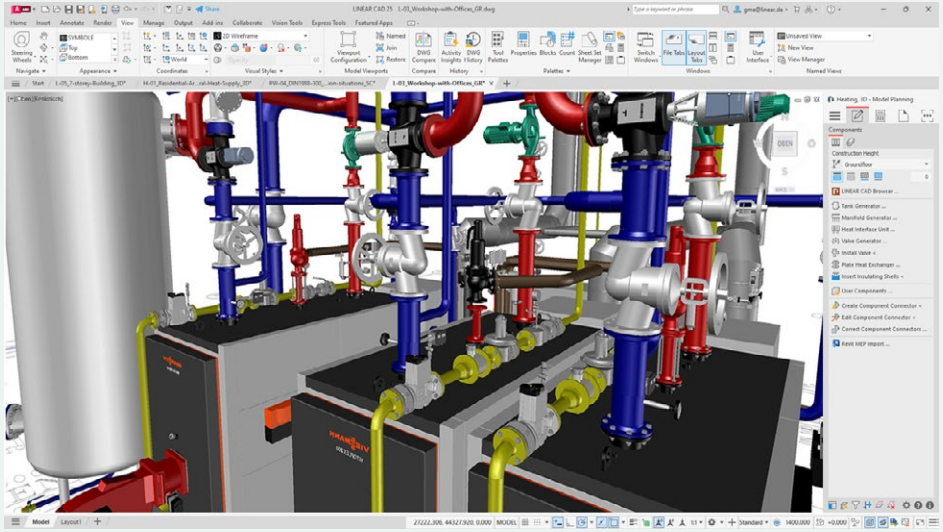
LINEAR DESIGN 3D

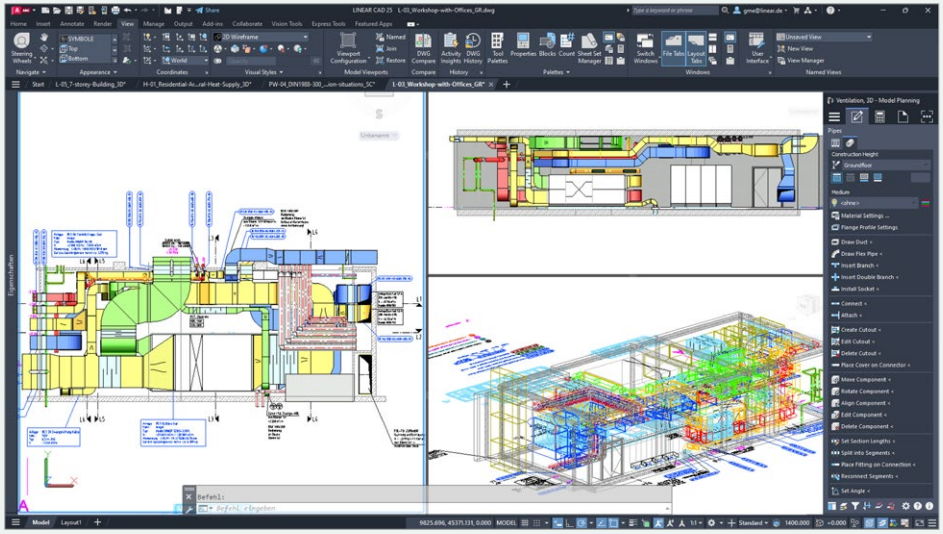
DETAILED 3D CONSTRUCTION | CONSTRUCTION DESIGN

DESIGN 3D
PIPE & POWER

DESIGN 3D
VENTILATION

Create realistic and functional models: Build your system digital and benefit from the advantages of a perfect design. From initial acquisition to complete documentation, including automatic section and view generation. Check the realizability of your design and use the possibilities of prefabrication to optimize time and costs. Piping or air duct systems, steel constructions or electric cable trays: With the object-oriented modules of the LINEAR Design 3D family and verified 3D components from our industry partners, you can build your systems precisely and quickly.





FEATURES

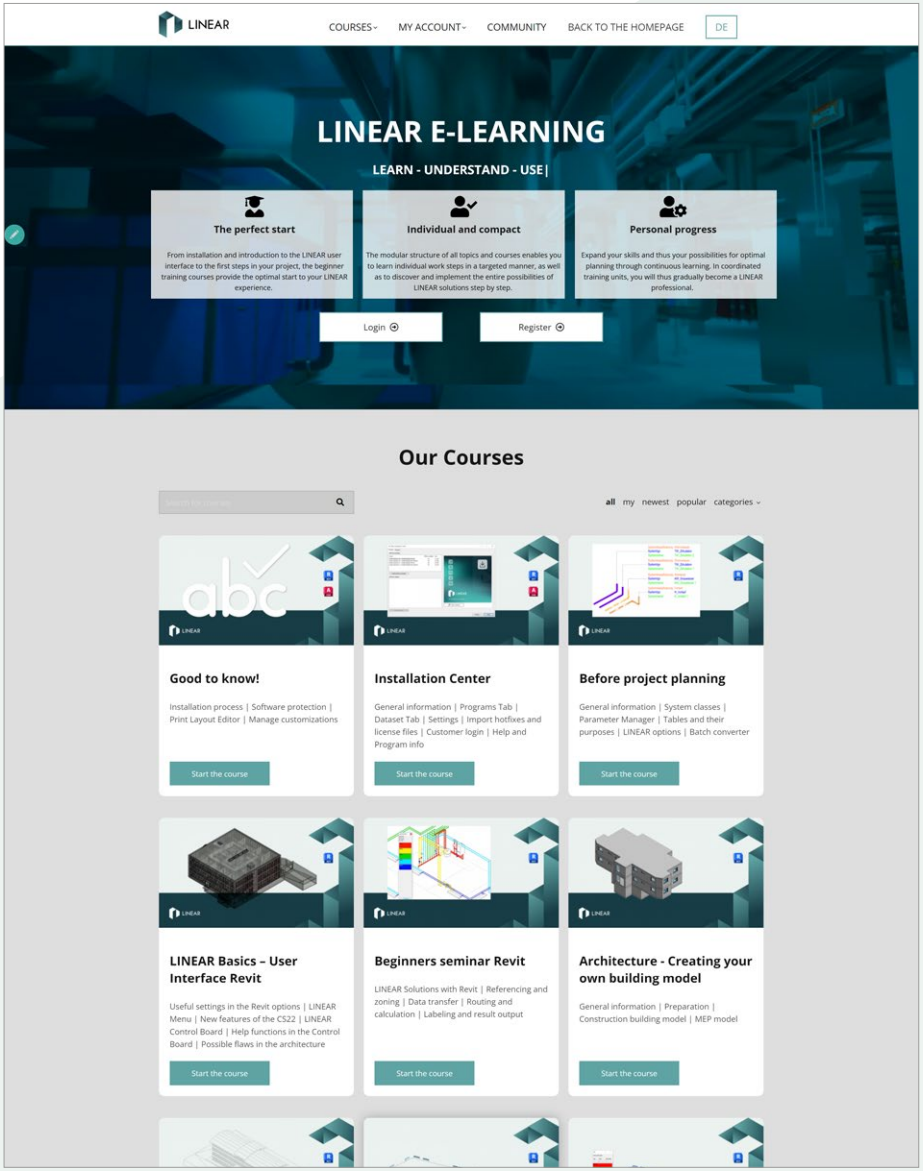
- Easy 3D Design
- Automatic connection of pipes and air ducts including transfer of media, materials, dimensions and pressure levels
- "Auto routing" (automatic connection with selection of variants for connection)
- Screw fitting of the entire construction (bolts, nuts etc.) with complete transfer to the parts list
- Predefine insulation materials and show or hide them with transfer to the parts list
- Consideration of deductions for welding seams, gaskets and insertion and bolting depths
- Generators and configurators for tanks, manifolds and central air handling units
- Insertion of components with suitable transitions and flanges in existing systems
- Real-time collision check
- 3D generation of calculated single-line drawings
- Connection editor for your own 3D components
- Automatic assignment of item numbers
- Material lists, parts lists with item numbers, sawing lists for pipes and position lists
- Extensive 3D libraries with neutral components and verified manufacturer components

E-LEARNING

FREE LEARNING PLATFORM | COMPACT COURSES
INDIVIDUAL LEARNING PROGRESS

On the LINEAR e-learning portal you have access to software training courses, which you can go through in a structured way. Each course consists of several short videos combined with text as well as associated sample projects. Courses that have been started are stored in your customer profile and can be continued seamlessly. The extensive range of courses therefore enables targeted training for specific issues and is continuously expanded and updated. There is also a forum where you can exchange information about course content or specific questions and provide mutual support.

- Professional training platform
- Extensive range of courses
- Structured courses
- Compact chapters within courses for quick orientation
- Sample projects for each course
- Traceability of individual learning progress via your profile
- Continuation of courses you have already started
- User forum for exchange with other customers
- Free of charge for all LINEAR customers

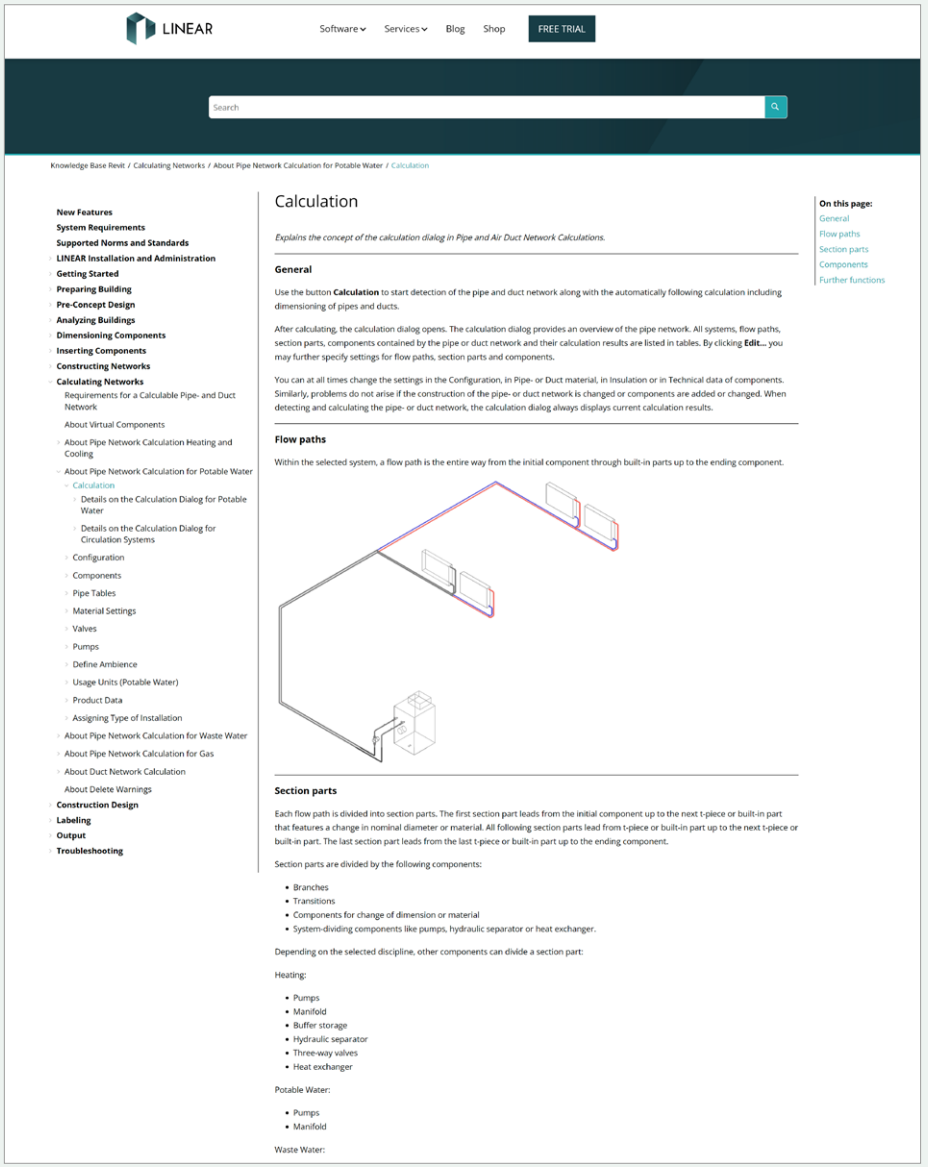


KNOWLEDGE BASE

DETAILED ONLINE HELP | NEWS
SUPPORTED STANDARDS | SYSTEM REQUIREMENTS

The LINEAR Knowledge Base is available on our website. In addition to the latest software help, you will also find information on system requirements, standards, new features and how to install the software. The Knowledge Base is provided online in your web browser, so that the latest information is always available to you as a customer. For customers without internet access, it is also optionally available offline. The context-sensitive help in our software solutions automatically guides you to the right place in the LINEAR Knowledge Base, where you find help and explanations to get the most out of the software.

- Extensive knowledge about all functionalities
- Detailed description of all workflows and features
- Powerful search function
- Context-sensitive help
- Installation instructions
- Up-to-date information on supported standards
- Presentation of new features
- System requirements



SUPPORT & ONLINE TRAINING

TELEPHONE SUPPORT | TICKET SYSTEM
INDIVIDUAL ONLINE TRAININGS

Our telephone support is available to help you with specific questions on the application, regardless of whether you need assistance with the operation of the software, with the installation or with the collaboration in a network environment. Especially in projects with a tight schedule, immediate availability of support is important. With modern tools like remote maintenance, even complex questions can be solved and explained quickly.

Questions that cannot be answered directly are forwarded as a ticket and solved in our second-level support and product development. Our ticketing system enables the traceability of the processing status as well as a complete documentation. We keep at it until your problem is solved.

In our individual trainings, experience has shown that intensive half-day trainings are most effective, which is why these 3-hour online trainings are very popular with our customers. Our trainers will create an optimal training for you in advance by asking you in detail about your wishes.

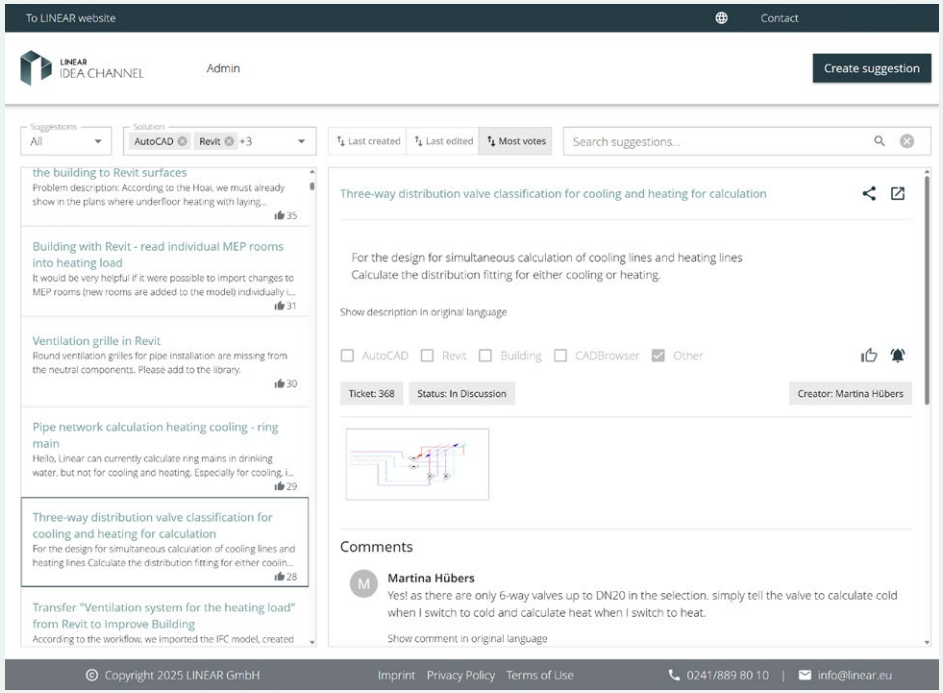




IDEA CHANNEL

SUBMIT SUGGESTIONS | EVALUATE IDEAS
DISCUSS IDEAS | TRACK IMPLEMENTATION

The further development of our software solutions has always been significantly influenced by the exchange with our customers. In order to ideally take your requirements into account, we have created the LINEAR Idea Channel as a platform for collecting customer suggestions and have them evaluated by all users.



1

Submit a suggestion

You create a suggestion in the form of a ticket and submit it.

2

Review by LINEAR

Our product management reviews all suggestions and evaluates the feasibility and benefits.

3

Publication and voting

Your suggestion will be published and other customers can vote for it. Depending on the popularity and rating, it will be passed on to development.

4

Integration into the software

Your suggestion is developed and integrated into the software. You will be informed about the current status during the whole process.

WHICH MODULE FOR WHICH WORK STEP?

Modular licensing system

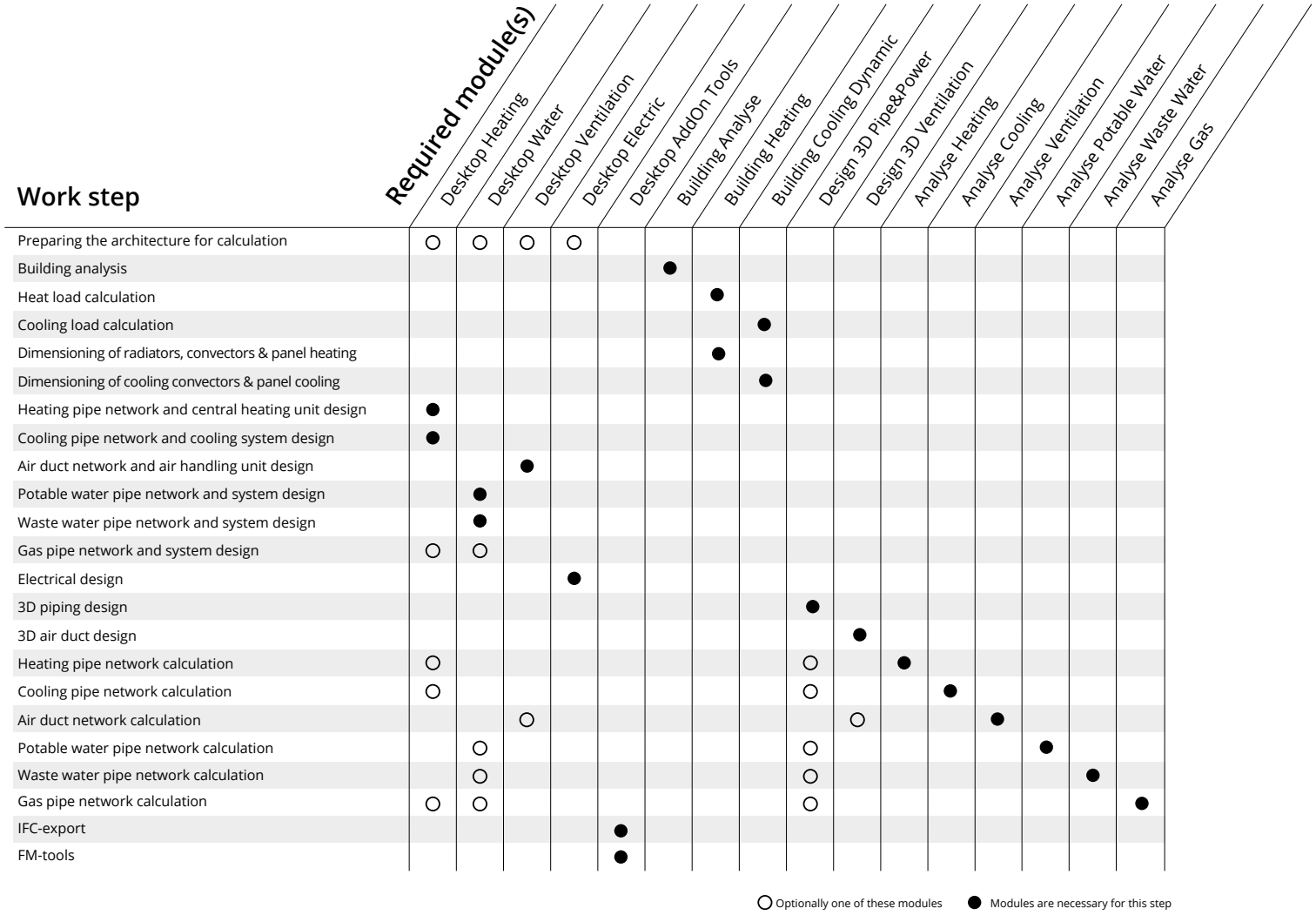
Thanks to the modular software structure, you have the option of adapting our solutions to your individual requirements. Only pay for what you really need and thus ensure maximum cost-effectiveness.

Subscription – Always up-to-date

We leave it up to you to decide whether you prefer to buy or rent the software. If you decide to rent, you will receive all updates automatically and have immediate access to all new features as soon as they are released. If you choose to purchase the software, we recommend our subscription model so that you also have access to all product enhancements that we release in our feature packs during the year.

Comprehensive consultation

To help you select the right licenses, a local customer representative is available to assist you. Together, you will be able to determine the license scope that is best for you. You can find your responsible consultant or sales partner on our website at www.linear.eu/en/contact/.



LINEAR IN NUMBERS

Founded in 1993

100 Employees

> 30.000 End users

> 70 Industry partners

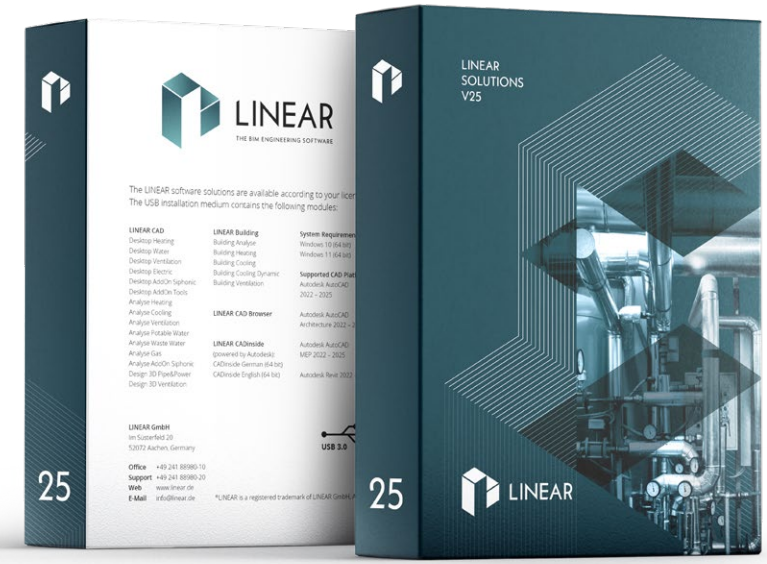
7 Languages

3 CAD platforms

OUR MISSION

Every day, our customers create thousands of drawings and calculations, and our software solutions prove themselves in demanding projects around the world. They are continuously being developed together with MEP designers, construction companies and manufacturers in a trusting relationship to provide our customers with the best possible support for their projects. The aspects of BIM-compliant design are particularly important to us in order to position our customers for the future and to enable the maximum benefit for all parties involved.

What moves us is our common mission:
THE BEST SOFTWARE FOR BETTER BUILDINGS.





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