

Differences of version 25.0 comparing to 24.1

1. Added new **Substance concentration** template for mixing two substances.
2. Implemented the sector-based approach for **External flow** template.
3. The region settings for **External flow** template have been replaced to the certain item in the project tree.
4. Added a command to undo the last action.

Differences of version 24.1 comparing to 24.0

1. Issue of KompasFlow launch on KOMPAS-3D Education edition has been fixed.
2. Errors with Color fill with separation of levels rendering method for Color contours type layers have been fixed.
3. The error causing parameters of a deleted item to be displayed has been fixed.
4. Layer legends are displayed only for the current project.

Differences of version 24.0 comparing to 23.2

1. New appearance of project and properties windows.
2. The mass transfer calculation for air conditioning problems has been implemented with incorporated parameters for air temperature and humidity. The following features are available:
 - new types of boundary conditions **Source of moisture** and **Hood** with the possibility of setting the mass fraction of impurity and thermal radiation;
 - new variables for humidity and moisture content equations.
3. A project creation wizard is available, which allows you to create projects based on templates and basic project settings (**Initial conditions**, **General settings** and **Computational grid**) in one window. Currently, there are 2 templates available: **External** and **flow Humidity**. You can also create projects using the wizard using a standard form without using templates.
4. Added a new view of color contours for layers. You can now set color contours either as gradients with color transitions or as a single-color fill with a gradation of each color and fine contours of the borders. In the latter case the colors for ranges will now match exactly the colors set in the layer's palette.
5. **Isosurface** layer has been added to visualize three-dimensional surfaces on which the variable takes on a constant value.
6. Added a new feature that automatically checks for self-intersections in the model geometry when you create a new KompasFlow project. If self-intersection areas are detected, the surface they belong to will be marked as incorrect in the project tree.
7. Now you can create projects on geometric models containing the same names of bodies.
8. Implemented the ability to modify existing and create new layers and objects between calculation runs on the Solver.
9. There are now 3 value options available for **Temperature** and **Pressure** variables: absolute value, relative value, and excess value. The selected option for variable will also be displayed in the layer legend.

Differences of version 23.2 comparing to 23.0

1. Improved application stability upon saving a project.

2. Bodies of components are no longer included in part calculation. Use an assembly project to consider bodies in a calculation.
3. Possibility to create an incorrect layer without specified variable is fixed. Now you can create a new layer only after specifying all necessary parameters, including the variable.
4. New context menu command of Boundary condition for Results creation is now available.

Differences of version 23.0 comparing to 22.0

1. The program can generate auto reports in formats .odt and .pdf.
2. A possibility to connect variables and results in KompasFlow with variables defined in KOMPAS-3D. See Optimization.

Differences of version 22.0 comparing to 21.0

1. Convenient selection from the list of predefined visualization palettes (including palettes for persons with color blindness or color vision deficiency)
2. Specifying integrating step explicitly in seconds.
3. Streamlines on surfaces and on planes.
4. The toolbar was modified; operations for creating layers, results and boundary conditions were added.
5. New features for work with assemblies.
6. Automatic creation of the computational domain for external flow-around simulations.

Differences of version 21.0 comparing to 20.0

1. Now accuracy of triangulation of the geometry model doesn't depend on accuracy settings for displaying in KOMPAS-3D; this allows transferring computational projects between workplaces without changes.
2. The limitation, which prevented computation of vary complex geometry models, is eliminated. Now KompasFlow can work with models that include a large number of facets.
3. An error was fixed: sometimes adaptation to solution didn't work so this issue could cause inaccuracies in computations.

Differences of version 20.0 comparing to 19.0

1. Now it is possible to assign a boundary condition to multiply selected faces. This substantially simplifies assigning boundary conditions in problem settings with large number of faces and surfaces (for example, in electrical assemblies). The root element in the property bar is now named as Face list (instead of its old name Group #N).
2. A Layer's legend can be oriented horizontally.
3. Now it is possible to automatically set Adaptation to curvature and Adaptation to sharp edges in adaptations of the computational grid.
4. For boundary conditions Wall it is possible now to specify the equivalent sand roughness, [μm].
5. For boundary conditions Inlet/Outlet the Velocity variable can be set using the method Inlet pressure.
6. It is possible now to display the Total temperature variable in Results and Layers.
7. It is possible now to display the Mach number in Results.
8. Selection of simulating the heat transfer was simplified (Physical processes > Heat transfer equation = Yes | No).

9. In Initial conditions and on boundary conditions Inlet/Outlet it is possible now to set Turbulence level (possible options: Low, 3% | Medium, 10% | High, 20%).
10. Adaptation to solution can now be applied depending on value or gradient of the variable Velocity.
11. For boundary conditions Inlet/Outlet the Temperature variable can be set using the method External heat exchange. This allows taking into account the heat flow on the boundary due to radiation and several thermal insulating layers.

Differences of version 19.0 comparing to 18.1

1. Now the program supports automated solving problems of multiparametric optimization due to integration between KompasFlow and the "Optimization IOSO-K" application of KOMPAS-3D. The optimization criteria can be results of computation in KompasFlow and mass properties of geometry in KOMPAS-3D. Parameters of the optimization can be size dimensions in KOMPAS-3D and/or parameters of the computational model in KompasFlow.
2. You can create several legends of Layers individually for each Layer and place them arbitrary within the program's window using the mouse.
3. Numerical values in the Results tab in the Monitoring window and under the mouse cursor in Layers are now displayed with the dimension.
4. The Monitoring window now displays Residuals and Results (they have individual tabs now). By default, Residuals are displayed in the logarithmic scale, while Results are displayed in the arithmetic scale.
5. The Total pressure variable has been added for Results and Layers.
6. Now you can view table values of properties of Substances that have been loaded from the Substance database.
7. Appearance of KompasFlow changes automatically according to the theme (either dark or light) selected in KOMPAS-3D.
8. Icons of the toolbar of KompasFlow are displayed in color when appropriate setting of KOMPAS-3D is enabled.
9. 32-bit version of KompasFlow is not supported anymore.
10. No the relative Temperature is set in boundary conditions with Radiation equilibrium.

Differences of version 18.1 comparing to 18.0

1. Now you can view values of the visualized variable in a Color contours layer in points indicated by the mouse pointer. To use this feature, in the project tree select a layer, in which you are interested in, and press the Alt key.
2. It is possible to know the force acting on the selected surface, several surfaces or a body. Computation of the force is done quite quickly.
3. It is possible to specify Mass flow on the boundary condition Inlet/Outlet (it is set for the Velocity variable).
4. The Characteristics functionality is now removed from the program because all its possibilities are implemented in the Results functionality.
5. Results allows visualize dynamics of more variables, so less convenient Characteristics were removed from the the program's interface.
6. The Groups folder has been removed from the project tree. When you need to select a face of some surface, do this using your mouse in the graphical area of the KOMPAS-3D's window.

7. On the boundary condition Wall the Temperature variable can be set using the Radiation equilibrium method.
8. When the computation is suspended, it is possible to change parameters of Adaptation. The new parameters will be applied after resuming the computation.
9. Turbulence is now simulated using the k- ϵ turbulence model only.
10. Now you can load the simulated Substance from database of substances.
11. Now you can quickly set a Boundary condition on the whole surface of a geometric body. It is set in the properties bar of an appropriate Comp. domain geometry > Bodies > Body element.
12. Simulation of hydrostatic pressure has been added (it is enabled when the Hydrostatics = Yes global parameter is set, and also you have to specify g-Density settings and components of Gravity vector).
13. New variables are available for visualization (Mach number and Y^+).
14. Many minor corrections and improvements were implemented in the program.