WOMEN GRADUATE EMPOWERMENT

TRAINING SCIENCE SYSTEM

MATHS/PHYSICS/CHEMISTRY/ARTS

ENTREPRENEURSHIP

DESIGN CONSULTANTS

PRODUCT DEVELOPMENT

THERMAL SOFTWARE

PASS Application Families
The PASS software is organized into product families to meet the broad range of piping systems analysis and design requirements.

PASS/HYDROSYSTEM for piping hydraulic and thermal analysis & sizing.
PASS/START-PROF for piping stress analysis & sizing.
PASS/EQUIP for equipment analysis (vessels, columns, heat exchangers, tanks, nozzles).
PASS/NOZZLE-FEM for stresses and flexibility calculation of nozzle-to-shell junctions.
PASS/Integration for easy and accurate data transferring between PASS software and CAD tools.
PASS/INDUSTRY for industry specific piping and equipment analysis.
PASS/ACADEMIC for educational institutions

SUPPORTS ARE GIVEN IN ALL FORMAT BY WOMAN CONSULTANT-SPECIALIST-TRAINER

STAGE I
LITERATURE-REFERENCE
MECHANISM-INFRASTRUCTURE
TRAINING & SUPPORT BY WOMEN GRADUATES

APM MULTIPHYSICS-KOMPAS 3D
KOMPAS 3D MECHANICAL APPLICATION
CONCEPTDRAW-DIAGRAM-MINDMAP-PROJECT

STAGE II
PIPING MODELING-LAYOUT
EQUIPMENT-TANK-HEAT EXCHANGER
MULTI-PHASE FLOW-LIQUID
TRANSIENT FLOW-SETTLING
SLURRY FLOW IN PIPING SYSTEMS.
TRAINING & SUPPORT BY WOMEN GRADUATES

STAGE III

PIPING ANALYSIS
EQUIPMENT ANALYSIS
NOZZLE ANALYSIS
HYDRO FLOW ANALYSIS

TRAINING & SUPPORT BY WOMEN GRADUATES

STAGE IV
MARKETING APPS
CLOUD TECHNOLOGY
PART-PROCESS-INSPECTION-ASSEMBLY DRAWINGS ARE PREPARED WITH TRAINING AND SUPPORT.
WEB SITE PREPARATION WITH SEO AND MARKETING APPS ON CLOUD TECH.
SAAS PRODUCT SUPPORT & TRAINING
CRM-EMAIL-MARKETING APPLICATION

TRAINING & SUPPORT BY WOMEN GRADUATES

THERMAL SYSTEM

CHEMICAL PLANT
THERMAL PLANT
FOOD PROCESSING INDUSTRIES
OIL - GAS INDUSTRIES
EFFLUENT TREATMENT INDUSTRIES
WATER TREATMENT INDUSTRIES
NUCLEAR EQUIPMENT INDUSTRIES
ALLIED EQUIPMENT INDUSTRIES

TYPE III
PASS/INDUSTRY DISTRICT HEATING COMPLETE
PASS/INDUSTRY DISTRICT HEATING COMPLETE PROVIDES THE COMBINED CAPABILITIES OF PASS/START-PROF AND PASS/HYDROSYSTEM PRESSURE&HEAT, SURGE ANALYSIS, AND PASS/NOZZLE-FEM.

THERMAL SYSTEM

PRODUCT DATA
Encyclopedia-Technical Survey-Patterned survey-Research publication-Reference product

REFERENCE DATA
Reference product specification-Types-Survey Technical Literature--Test report-Analysis data

INDUSTRY
INDUSTRY Process Complete-INDUSTRY Piping Complete-INDUSTRY District Heating Complete

INFRASTRUCTURE
2D Layout-Data-Motion
Required and reference Chart

PIPING
PASS/EQUIP
HYDROSYSTEM
EMBEDDED INTELLIGENCE

PASS/EQUIP
PASS/Equipment Vessel-PASS/Equipment-Vessel&Exchanger-PASS/Equipment Tank/Databases
In order not to enter the necessary settings manually, there are a number of embedded databases:
Materials-Sheets, pipes and standard shapes-Stiffening rings-Flanges-Supports

PASS/INDUSTRY provides comprehensive piping and equipment analysis with related sizing calculations for specific industry sectors according to international and national codes and standards. This PASS Product family combines the extensive capabilities of the other PASS product families in an organized manner to meet the specific applications and needs for process plants, piping systems, and District Heating.

PIPING ANALYSIS
EQUIPMENT ANALYSIS
NOZZLE ANALYSIS
HYDRO FLOW ANALYSIS

column vessels, and takes into account wind and seismic loads. PASS/EQUIP also calculates strength and stability of shell and tube heat exchangers, including tubesheets, tubes, pass partitions, shells, expansion bellows, expansion boxes, and floating heads. The smart tube grid editor of heat exchanger provides very powerful capabilities of non-standard tubesheets modeling.

Process piping systems at plants, storage facilities, pumping, and compressor stations;
Plant utility piping systems such as steam, water, compressed air, inert gases, fuel, refrigerants, and others;
Piping in mechanical industries such as aerospace, ship building, boiler, turbines, and more;
Oil and gas upstream and midstream pipelines;
Outdoor piping networks including district heating, water, and gas distribution;
Other piping networks.

3D MODELING
MANUFACTURING
BUSINESS DOCUMENTS
CLOUD TECHNOLOGY

MANUFACTURING
2D-3D-INSPECTION-PROCESS DRAWING

CLOUD TECHNOLOGY
WEBSITES-EMAIL-CRM-SEO-APPS

Configurations

TYPE I
PASS/INDUSTRY PROCESS COMPLETE
PASS/INDUSTRY PROCESS COMPLETE PROVIDES THE COMBINED CAPABILITIES OF PASS/START-PROF COMPLETE, PASS/HYDROSYSTEM COMPLETE, AND PASS/EQUIP FEM COMPLETE.

TYPE II
PASS/INDUSTRY PIPING COMPLETE
PASS/INDUSTRY PIPING COMPLETE PROVIDES THE COMBINED CAPABILITIES OF PASS/START-PROF COMPLETE, PASS/HYDROSYSTEM COMPLETE, AND PASS/NOZZLE-FEM.

SOFTWARE

STAGE I
APM WINMACHINE-KOMPAS- PASS/START PASS/HYDROSYSTEM-PASS/EQUIP FEM

STAGE II
APM WINMACHINE-KOMPAS- PASS/START PASS/HYDROSYSTEM-PASS/EQUIP FEM

STAGE III
APM WINMACHINE-KOMPAS- PASS/START PASS/HYDROSYSTEM-PASS/EQUIP FEM

STAGE IV
APM WINMACHINE-KOMPAS- PASS/START PASS/HYDROSYSTEM-PASS/EQUIP FEM

PIPING PASS/START-PROF
PASS/START-PROF include following databases:
Materials-Variable Springs-Constant Load Springs-Soils
Expansion Joints-Insulation-Tees-Bends-Reducers
Pipes-Flange and Gasket-Beam-Valve

PASS/HYDROSYSTEM
diameter selection, heat and hydraulic analysis of steady state flow for real liquids, gases, and multiphase mixtures (including gas/liquid, oil/water, and gas/oil/water flow considering flashing and condensation), in piping systems of any complexity, including networks with loops.

PIPING ANALYSIS
All checks are made automatically: stresses, support loads, expansion joint deformations, flange leakage, buckling, loads on springs in all operating modes, stresses in insulation, and stresses in flaws. Table cells with a problem are marked with a red color

WRC-537 Welding Research Council. Bulletin. "Precision Equations and Enhanced diagrams for Local Stresses in Spherical and Cylindrical Shells due to External Loadings for implementation of WRC Bulletin 107". 2013.
GOST 34233.2-2017. Vessels and apparatuses. Standards and methods of strength calculation. Calculation of cylindrical and conical shells, dished and flat bottoms and covers.
GOST 34233.3-2017. Vessels and apparatuses. Standards and methods of strength calculation. Reinforcement of openings in shells and heads under internal and external pressure. Strength calculation of shells and heads under external static loads on the nozzle.

3D MODELING
PART-PROCESS-INSPECTION-ASSEMBLY DRAWINGS

BUSINESS DOCUMENTS
COMPANY-PRODUCT-MARKETING

MANUFACTURING SYSTEM

MODELING KOMPAS-3D
VERTICAL technological processes
POLYNOMIAL:MDM MANAGING NSI DATA
PILOTMAN:PLM life cycle management
Pilot-BIM BIM projects
Pilot-ICE Enterprise
Technology: TX design documentation
GULF STREAM Control System
8D. Quality control quality assurance
LOTSMAN:KB documentation
Delta Design PCB design

SELECTING PROCECT
ENTREPRENEURSHIP
DESIGN CONSULTANTS
PRODUCT DEVELOPMENT

FEATURE

STAGE I
LITERATURE-REFERENCE

STAGE II
2D ASSEMBLY-3D MODELING

STAGE III
STATIC & DYNAMIC ANALYSIS

STAGE IV
MARKETING APPS CLOUD TECH