MT-COMP

MECHANICAL DESIGN OF COMPONENTS

MT-MECH: MECHANICAL CODES AT YOUR FINGERTIPS

A COMPLETE SUITE OF PROGRAMS FOR MECHANICAL DESIGN IN CHEMICAL ENGINEERING

- MT-EXCH SHELL & TUBE HEAT EXCHANGERS
- MT-VESS HORIZONTAL & VERTICAL VESSELS
- MT-COMP EXCHANGERS & VESSELS COMPONENTS
- MT-LAYOUT TUBESHEET LAYOUT ANALYSIS

MT-COMP allows mechanical design of pressure vessel components and rating of existing ones. Components of shell and tubes heat exchanges are also handled.

ALLOWED CODES

- ASME VIII division 1 (U.S.A.)
- ASME VIII division 2 (U.S.A.)
- AD2000-MERKBLATT (Germany)
- ISPESL-VSR (Italy)
- EN 13445 (Europe)
- EN 12493 (LPG) (Europe)
- EN 14025 (LPG) (Europe)
- PD5500 (App. G) (U.K)

COMPONENTS TYPES

- Heads (spherical, elliptical, torispherical)
- Flat welded heads
- Flat flanged heads
- Flat head w/t central opening
- Shells
- Conical sections
- Girth flanges
- Nozzles (radial, inclined, hillside)
- Tubesheets
- Floating heads
- Expansion joints
- Support saddles
- Support brackets
- Local loads
- Support Skirt
- Support Legs
- Exchanger Tubes
- Heating Channels
- Lifting Lugs
- NonCircular Vessels

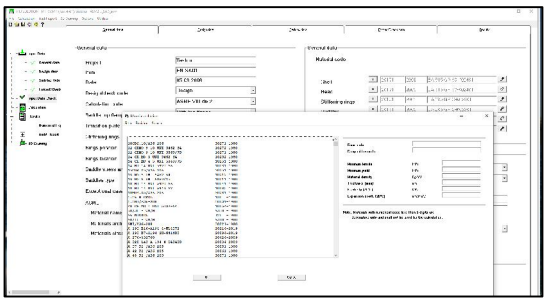
ANALYSIS CAPABILITIES

- Check of stresses caused by internal pressure
- Stability check for loads caused by external pressure. Stiffening rings, thickness increase or a combination of both can be chosen.
- Maximum Allowed Working Pressures (MAWP) are calculated for all the components
- Combined calculation of tubesheets and expansion joint for fixed tubesheets exchangers.
- Stability check for saddle, brackets, legs and skirt
- Weight and volume calculation for the component
- Geometric sizing of the component
- Fatigue analysis

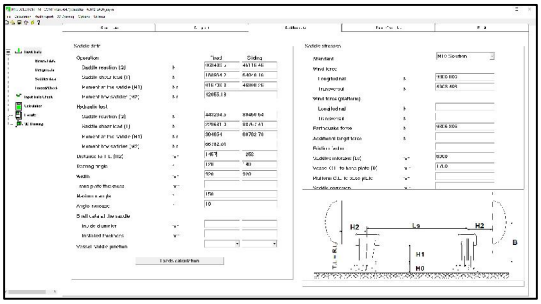
INPUT

Data entry quick, easy and checkable.

Most of the data are preset and the user simply selects them from a list



When needed, drawings are associated to the input fields to make the selection even easier



Extended data banks available in the program:

- MATERIALS
  Mechanical properties for over 850 materials (ASME/ EUROMARK)
- NOZZLES (PIPES AND FLANGES)
  Tables include data for nominal diameters ranging from 10 mm (3/8") to 1500 mm (60") (ASA and UNI/ISO)
- GASKETS
  Tables include data for 80 gaskets (ASME/VSR/EN/ AD-MERKBLATT)
- ASME CHARTS FOR EXTERNAL PRESSURE
  All the charts provided by the ASME are included
- STANDARD SUPPORTS
  Tables include data for saddle, brackets, legs and skirt
- SHAPES FOR STIFFENING RINGS
  Tables include EUROPEAN STANDARD and AISC STANDARD
- BOLTS
  - ANSI B18.22
  - UNI/ISO
  - DIN 2510
  - TEMA Tab D5/D5M
  - EN ANNEX G (waisted/rolled)

Almost all data banks are open and customizable by the user.

Measurement Units are completely free and customizable. The user can insert new units, define new unit systems or modify on the fly a single unit on the input data sheet.

OUTPUT

Report results clear and exhaustive.

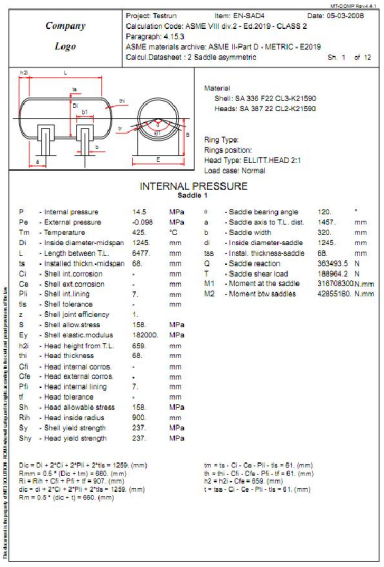
- GENERAL RESULTS
  input data and results are shown for a quick analysis of the calculation

- AUDIT REPORT

  The component calculations with formulas are shown and can be printed for the inspecting authority.

  The datasheets can be generated in English or in Italian language.

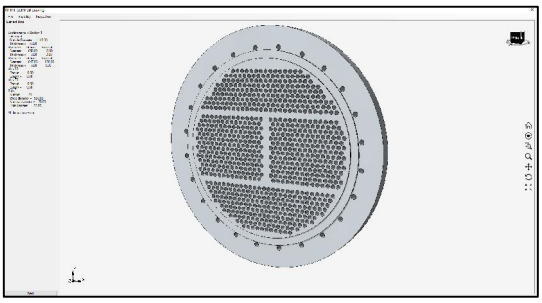
  The system units can be selected between S.I. or Imperial.



- 3D MODEL

A 3D model is automatically generated by the program. Description language and measurement system are user definable.

3D model export in DWG, IGS, STP format is also available.



PRINT MANAGER

Using this function datasheets of several components can be grouped together for automatically generate a single Audit Report Book for the inspecting authority.

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