

COMPARISON TRIFLEX[®] Windows vs. CAESAR II
Windows

Items	TRIFLEX [®]	CAESAR II
GENERAL		
Product Inception	1971	1984
on-line HELP	yes	yes
Engineering Code/ Country Code Compliant	yes	yes
Microsoft Windows 95/98/NT Compliant	yes	no
Year 2000 Compliant	yes	yes
INPUT & MODELING CAPABILITY		
3-D Graphical Input-including skewed components	Interactive	static
Anchor	yes	yes
Elbow	yes	yes
Flange	yes	yes
Branch	yes	yes
Valve	yes	yes
Reducer	yes	no
Pipe	yes	yes
Expansion Joint	yes	yes
Joint	yes	yes
Release Element	yes	no
Restraint	yes	yes
Connectivity & Error Checking	yes	yes
Drawing		
Single Line	yes	yes
3-D Rendering	yes	Primitive
Wire Frame	no	Primitive
Dynamic Graphic Updating & Rotation	yes	no
ISOMETRIC view	yes	no
Orthogonal/Perspective	yes	no
Dynamically mix unit of measure	no	yes
User Defined Input including metrics, International	yes	yes
Spreadsheet Input		
Elbow Length & Weight Data	yes	no
Flange Length & Weight Data	yes	yes
Tee Length & Weight Data	yes	no
Valve Length & Weight Data	yes	yes
Reducer Length & Weight Data	yes	no
Pipe Schedules & Diameters	yes	no
Expansion Joint	yes	no
Joint Length & Weight Data	yes	no
Restraint	yes	no
User Defined	yes	yes
Dialog Screens	yes	yes
Key Word Input	yes	no
All of AISC Structural Components	yes	no
Interfaces & Import Capability		
Intergraph - PDS TRIFLEX Comprehensive,Caesar only Geometry	yes	yes
CATIA Release 5 through I-Sketch	yes	no
PIPENET Transient	yes	yes
I-Sketch Caesar utilizes CADWORX	yes	no
Export		
LIQT	no	yes
BOS Fluid	no	yes
PIPENET	yes	yes
AutoCAD - dxf	yes	yes
VRML	yes	no
jpg, bmp, hpgl, post script	yes	no
xls, html or txt format	yes	no
dxf	yes	yes

Equipment Load Checks		
NEMA SM23 - Steam Turbines	yes	yes
NEMA SM24 - Steam Turbines CoGeneration	yes	no
API 610 - Centrifical Pumps	yes	yes
API 617 - Centrifical Compressors	yes	yes
STANDARD PIPING CODES & COUNTRY CODES		
B31.1 & B31.1 (1967) - Power	yes	yes
B31.3 - Petrochemical & Refining	yes	yes
B31.4 - Liquid Transportation	yes	yes
B31.5 - Thermal & Refrigeration	no	yes
B31.8 -Gas Transportation	yes	yes
ASME Sec. III, Class 2&3 - Nuclear Power	yes	yes
Canadian Z662	no	yes
British Standard 806	no	yes
US Navy Section 505	yes	yes
Stoomwezen - Dutch D-1101	yes	yes
BS 7159 - British Fiberglass	yes	yes
Norwegian Piping Code , (Method 1, Section 9.4)	yes	?
Norwegian Piping Code , (Method 2, Section 9.5)	yes	?
DNV Rules- Submarine Pipeline System, 1981,1996,2000	yes	no
Swedish Piping Code Method 1, Section 9.4	yes	yes
Swedish Piping Code Method 1, Section 9.5	yes	yes
Submarine Pipe & Riser, 1984 Norwegian Petro Directorate	yes	no
Design, Specifications Offshore Installations, F-sd-101 Statoil	yes	no
Polska Norma PN-79/M34033 Steam & water Piping	yes	yes
SNIP 2.05-06-85 FSU Transmission Piping Code	yes	yes
UKOOA - UK Offshore	yes	yes
RCC-M C	no	yes
RCC-M D	no	yes
CODETI	no	yes
IGE/TD/12 - UK Gas	no	yes
Euro Code EN13480	yes	no
FRP/GRP Code	yes	yes
CAPABILITY		
Selection of Restraints		
Anchors with/wo displacements	yes	yes
Single/Double Acting Translational	yes	yes
Single/Double Acting Rotational	yes	yes
Translational with bi-shear stiffness	yes	yes
Snubbers	yes	yes
Guides & limit stops	yes	yes
Bottomed-out springs	yes	yes
Tie Rod Assemblies	easily modeled	yes
Gap & Friction	yes	yes
Connecting Nodes for Nodal interdependence	yes	yes
Freeing Restaint on a Pipe Lift off	yes	yes
Complete AISC Structural Steel Components	yes	?
Shows Hangers & Supports	yes	no
Large Rotational Rod Supports	yes	yes
Other		
Interactive List Editing Input	yes	yes
User Tailored Program override	yes	yes
Automatic Expansion Joint Modeling	yes	yes
Cold Springs	yes	yes
Bend/Intersection- Stress Intensification	yes	yes
Multiple job batch processing	yes	yes
STATIC ANALYSIS - Capabiltity		
Recommend load cases needed for compliance	no	yes
Analyze piping & structural models together	yes	yes
Hanger selection options	yes	yes
ASCE #7 - Wind load Generation	yes	yes
Wind Load can specify pressure or velocity profile	yes	yes
Thermal Bowing	yes	yes
WRC 197/297	WERCO	yes

DYNAMICS ANALYSIS Capability		
Mode Shapes & Frequencies	yes	yes
Time History	yes	yes
Response Spectrum	yes	yes
Equipment Load Checks		
NEMA SM23 - Steam Turbines	yes	yes
NEMA SM24 - Steam Turbines	yes	no
API 610 - Centrifical Pumps	yes	yes
API 617 - Centrifical Compressors	yes	yes
HEI - Closed Feedwater Heaters	no	yes
API 661- Air Cooled Exchangers	no	yes
Flange Leaks & Stress ANSI B16.5 Section VIII, Div. 1	no	yes
OUTPUT CAPABILITY		
Flange Loading Report	yes	yes
Modal Frequencies Report	yes	yes
Spectral Combination Report	yes	yes
Modal Participation Report	yes	yes
Spectrum Specification Report	yes	yes
API Standard 617 Compliance Report	yes	yes
Rotating Equipment Compliance Report (ROT)	yes	yes
API Standard 610 Compliance Report	yes	yes
Input echo	yes	yes
Hanger selection options	yes	yes
Individual load cases	yes	yes
Local forces & moments	yes	yes
Compare Stresses	yes	yes
Displacement Shapes	yes	yes
Forces	yes	yes
Moments	yes	yes
Stresses	yes	yes
Deflected Shapes	yes	yes
HARDWARE		
64 Mbytes RAM	yes	yes
Mbytes Disk	75	60
Pentium Class with CD ROM and Win98,NT, 2000, XP	yes	yes
SUPPORT		
One Full Year	yes	yes