

# Computer Models For Fire and Smoke

<i>Model Name:</i>	Kameleon FireEx
<i>Version:</i>	Kameleon FireEx 99
<i>Classification:</i>	Field model
<i>Very Short Description:</i>	Kameleon FireEx is a Computational Fluid Dynamics (CFD) code that solves the temperature, gas concentration, soot concentration and radiation field in congested as well as open 3-dimensional geometry. Thermal response on solid surfaces and cooling and extinction by water sprays can also be calculated. Kameleon FireEx is also linked to the finite element code USFOS for complete structural response analysis of structures exposed to fires.
<i>Modeler(s), Organization(s):</i>	Originally developed at SINTEF Energy Research AS. All commercial rights transferred to Computational Industry Technologies AS, addresses etc given below
<i>User's Guide:</i>	Kameleon FireEx 99 User Manual, SINTEF Energy Research report TRF5119 (B.E.Vembe, K.E. Rian, J.K.Holen, B. Grimsmo and B.F.Magnussen)
<i>Technical References:</i>	Kameleon FireEx 99 Theory manual, SINTEF Energy Research report TRF5212 (B. Grimsmo, J.K. Holen, B. Lakså, B.F. Magnussen, T. Myhrvold, B.E. Vembe and K.E. Rian)
<i>Validation References:</i>	Kameleon FireEx 99 Release Document, SINTEF Energy Research report TRF5120 B.E. Vembe, N.I. Lilleheie  Test cases calculated with Kameleon FireEx. Comparisons with measurements. SINTEF Energy Research report TRF4811

Benchmark cases calculated with Kameleon FireEx 97,  
SINTEF Energy Research report TRF4709

*Availability:*

Will be commercialised by Computational Industry  
Technologies AS (ComputIT).

*Price:*

Not yet decided

*Necessary Hardware:*

Any main stream Unix work station, including Intel PC  
running Linux. Recommended RAM 512 Mb.

*Computer Language:*

Fortran 77 and C

*Size:*

50-100 Mb depending on the operating system

*Contact Information:*

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*Detailed Description:*

See paper:

Vembe, Bjorn E., Lilleheie, Niles I., Holen, Jens K., and Magnussen, Bjorn F.  
"Kameleon FireEx, A Simulator for Gas Dispersion and Fires", 1998 International Gas  
Research Conference.