

Computer Aided – Process Engineering - 1

Computer Aided
Process Engineering 가
Computer Aided Process Engineering

- R.Gani, J.P.O'Connell, "Properties and CAPE", Computers and Chem. Eng., 25 ,3 (2001)

1.

Computer Aided Process Engineering (CAPE)

(1) , ,

(2) , ,

(3) Specification,

(4) Spec.

(mathematical model) 가
solution 가

(가) ()

가

(1) (T, P, x) (intensive properties) , 가

(2) 가 “가 ” 가 , ,

(3)) 가 , () , , (가 .

(4) 가 “가 ”

(5) , , ,

(6) .

CAPE 가 ()

CAPE generator
CAPE
가 /

2. CAPE

CAPE

(1) Service

-

(2) Service/Advice

- (1) 가

(3) Service/Advice/Solve

-

2.1 Service Role

Service Role

(1) – (6)

$0 = f_{1i}(x_i, y_i, z_i, F, L, V)$	$i = 1, \dots, NC$	(1)	Mass Balance
$0 = f_2(F, L, V, h_F, h, H)$		(2)	Energy Balance
$0 = g_1(x, y, K)$		(3)	Phase Equilibrium
$K_i = g_{2i}(x, y, T, P)$	$i = 1, \dots, NC$	(4)	Equilibrium Const.
$h = g_4(x, T, P)$		(5)	Liquid Enthalpy
$H = g_4(y, T, P)$		(6)	Vapor Enthalpy

(1)-(6)

(4)-(6)

(4)-(6)

가

simulation

(4)-(6)

가

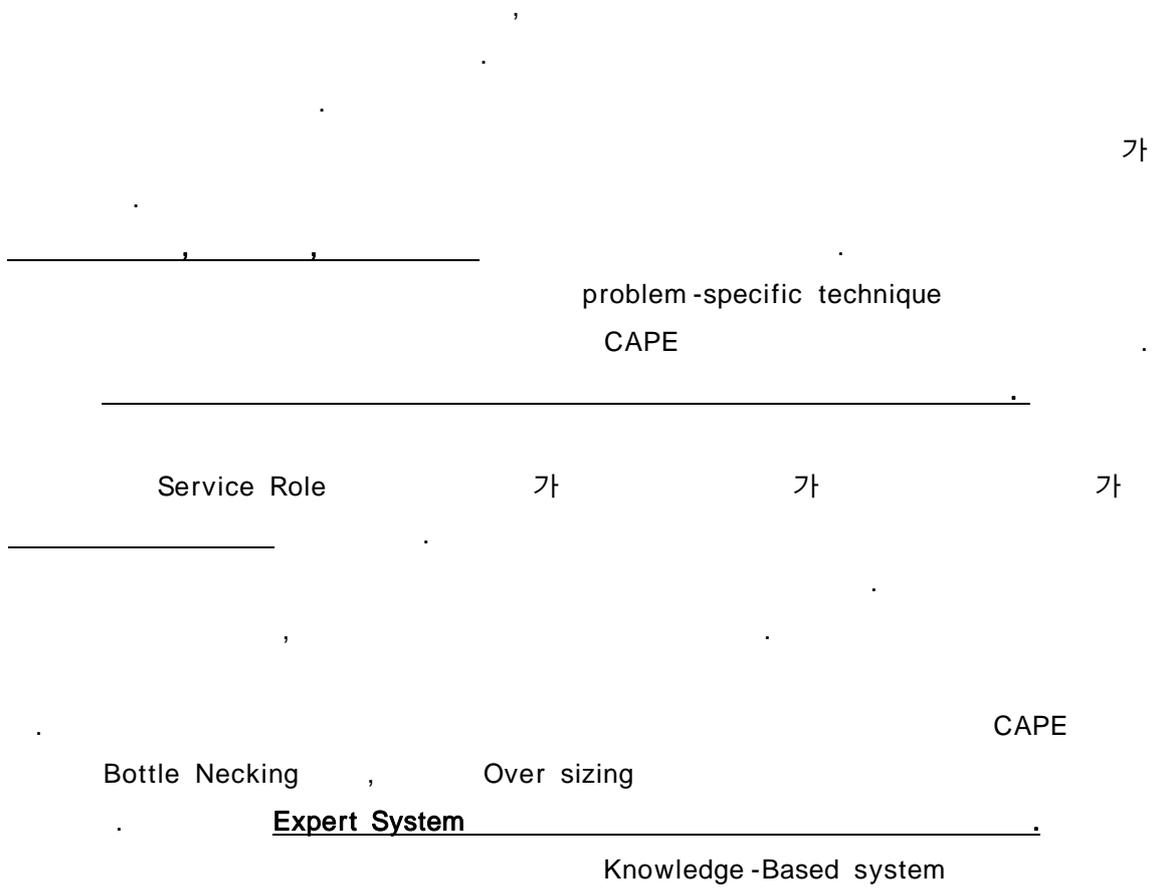
nonlinear behavior 가

가

Service Role

가

on-line



- R. Banares -Alcantara and A.W. Westerberg, Computer and Chem. Eng., 9, 127 (1985)
- R. Gani and J.P. O'Connel , Computer and Chem. Eng., 13, 397 (1989)

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