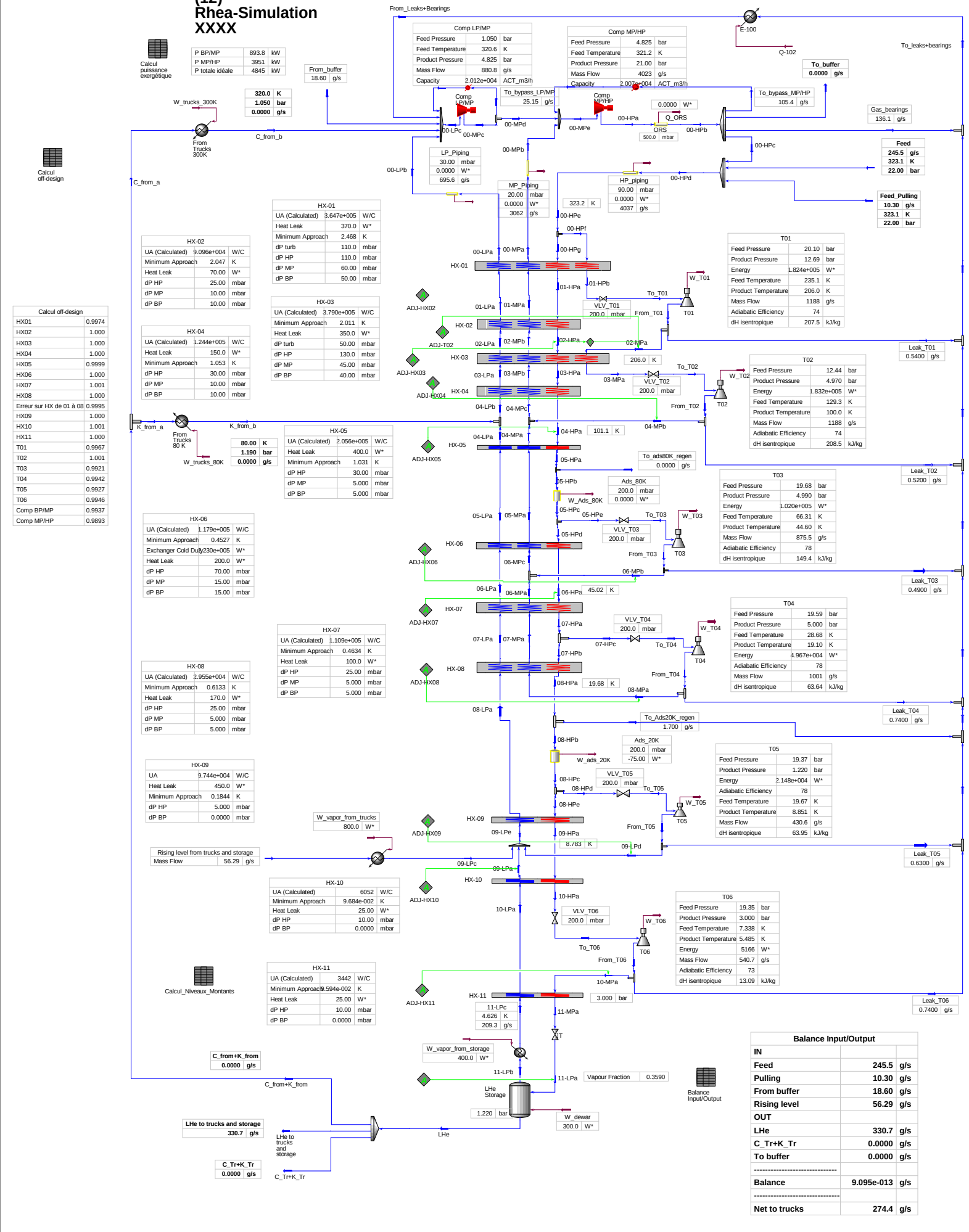
(12)
Rhea-Simulation
XXXX



Workbook: Case (Main)

Streams

Fluid Pkg: All

Name		00-HPa	00-HPb	00-HPc	00-HPd	00-HPe
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	323.1 *	323.2	323.2	323.2	323.2
Pressure	(bar)	21.00 *	20.50	20.50	20.50	20.41
Mass Flow	(g/s)	4023	4023	3782	4037	4037
Mass Enthalpy	(J/g)	1685	1685	1685	1685	1685
Heat Flow	(W*)	6.778e+006	6.778e+006	6.371e+006	6.802e+006	6.802e+006
Name		00-HPf	00-HPg	00-LPa	00-LPb	00-LPc
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	323.2	323.2	320.7	320.7	320.6
Pressure	(bar)	20.41	20.41	1.080	1.050	1.050 *
Mass Flow	(g/s)	1188	2849	695.6	695.6	880.8
Mass Enthalpy	(J/g)	1685	1685	1666	1666	1665
Heat Flow	(W*)	2.002e+006	4.800e+006	1.159e+006	1.159e+006	1.466e+006
Name		00-MPa	00-MPb	00-MPc	00-MPd	00-MPe
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	320.7	320.7	323.1 *	323.1	321.2
Pressure	(bar)	4.845	4.825	4.825	4.825	4.825
Mass Flow	(g/s)	3062	3062	880.8	855.6	4023
Mass Enthalpy	(J/g)	1667	1667	1680	1680	1670
Heat Flow	(W*)	5.104e+006	5.104e+006	1.479e+006	1.437e+006	6.716e+006
Name		01-HPa	01-HPb	01-LPa	01-MPa	2
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	235.1	235.1	226.1	226.1	12.21
Pressure	(bar)	20.30	20.30	1.130	4.905	1.220
Mass Flow	(g/s)	2849	1188	695.6	3062	3.070
Mass Enthalpy	(J/g)	1228	1228	1174	1176	61.83
Heat Flow	(W*)	3.498e+006	1.458e+006	8.169e+005	3.600e+006	189.8
Name		02-HPa	02-LPa	02-MPa	02-MPb	03-HPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	206.2 *	204.1	206.0	204.1	129.3
Pressure	(bar)	20.28	1.140	12.69 *	4.915	20.15
Mass Flow	(g/s)	2849	695.6	1188	3062	2849
Mass Enthalpy	(J/g)	1077	1060	1074	1062	677.5
Heat Flow	(W*)	3.070e+006	7.376e+005	1.275e+006	3.251e+006	1.930e+006
Name		03-LPa	03-MPa	03-MPb	4	04-HPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	121.5	129.3	121.5	5.356	101.1 *
Pressure	(bar)	1.180	12.64	4.960	1.220	20.12
Mass Flow	(g/s)	695.6	1188	3062	1.370	2849
Mass Enthalpy	(J/g)	631.2	675.2	632.3	22.74	530.8
Heat Flow	(W*)	4.390e+005	8.018e+005	1.936e+006	31.16	1.512e+006
Name		04-LPa	04-LPb	04-MPa	04-MPb	04-MPc
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	100.1	100.1	100.1	100.0 *	100.1
Pressure	(bar)	1.190	1.190	4.970	4.970	4.970
Mass Flow	(g/s)	695.6	695.6	1875	1187 *	3062
Mass Enthalpy	(J/g)	520.1	520.1	521.2	520.9	521.0
Heat Flow	(W*)	3.618e+005	3.618e+005	9.772e+005	6.183e+005	1.595e+006
Name		5	05-HPa	05-HPb	05-HPc	05-HPd
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	13.45	66.30	66.30	66.31	66.31
Pressure	(bar)	1.220	20.09	20.09	19.89	19.89
Mass Flow	(g/s)	3.810	2849	2849	2849	1974
Mass Enthalpy	(J/g)	68.52	348.5	348.5	348.5	348.5
Heat Flow	(W*)	261.1	9.928e+005	9.928e+005	9.928e+005	6.878e+005

* Specified by user.

Workbook: Case (Main) (continued)

Streams (continued)

Fluid Pkg: All

Name		05-HPe	05-LPa	05-MPa	6	06-HPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	66.31	61.21	61.21	16.96	45.02 *
Pressure	(bar)	19.89	1.195	4.975	1.220	19.82
Mass Flow	(g/s)	875.5	695.6	1875	4.300	1974
Mass Enthalpy	(J/g)	348.5	318.0	318.7	87.14	235.5
Heat Flow	(W*)	3.051e+005	2.212e+005	5.977e+005	374.7	4.648e+005
Name		06-LPa	06-MPa	06-MPb	06-MPc	07-HPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	44.56	44.56	44.60 *	44.58	28.68
Pressure	(bar)	1.210	4.990	4.990	4.990	19.79
Mass Flow	(g/s)	695.6	1000	875.0 *	1875	1974
Mass Enthalpy	(J/g)	231.5	231.7	231.9	231.8	145.9
Heat Flow	(W*)	1.610e+005	2.317e+005	2.029e+005	4.347e+005	2.881e+005
Name		07-HPb	07-HPc	07-LPa	07-MPa	08-HPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	28.68	28.68	24.73	24.73	19.68
Pressure	(bar)	19.79	19.79	1.215	4.995	19.77
Mass Flow	(g/s)	973.1	1001	695.6	1000	973.1
Mass Enthalpy	(J/g)	145.9	145.9	128.0	126.9	93.32
Heat Flow	(W*)	1.420e+005	1.461e+005	8.906e+004	1.269e+005	9.081e+004
Name		08-HPb	08-HPc	08-HPd	08-HPe	08-LPa
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	19.68	19.68	19.68	19.68	19.04
Pressure	(bar)	19.77	19.57	19.57	19.57	1.220
Mass Flow	(g/s)	971.4	971.4	430.6	540.7	695.6
Mass Enthalpy	(J/g)	93.32	93.40	93.40	93.40	98.14
Heat Flow	(W*)	9.065e+004	9.073e+004	4.022e+004	5.050e+004	6.826e+004
Name		08-MPa	09-HPa	09-LPa	09-LPc	09-LPd
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	19.10 *	8.783	8.686 *	6.420	8.851 *
Pressure	(bar)	5.000 *	19.56	1.220	1.220	1.220
Mass Flow	(g/s)	1000 *	540.7	209.3	56.29	430.0 *
Mass Enthalpy	(J/g)	96.31	22.16	42.60	29.52	43.52
Heat Flow	(W*)	9.631e+004	1.198e+004	8916	1662	1.871e+004
Name		09-LPe	10-HPa	10-LPa	10-MPa	11
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	8.598	7.323	5.389	5.485 *	25.86
Pressure	(bar)	1.220	19.55	1.220	3.000 *	1.220
Mass Flow	(g/s)	695.6	540.7	209.3	540.0	4.820
Mass Enthalpy	(J/g)	42.11	14.61	22.97	5.051	133.9
Heat Flow	(W*)	2.929e+004	7898	4807	2728	645.6
Name		11-LPa	11-LPb	11-LPc	11-MPa	C_from+K_from
Vapour Fraction		0.3590 *	1.0000	1.0000	1.0000	0.0000
Temperature	(K)	4.425	4.425	4.626	5.372	4.425
Pressure	(bar)	1.220 *	1.220	1.220	2.990	1.220
Mass Flow	(g/s)	540.0 *	209.3	209.3	540.0	0.0000 *
Mass Enthalpy	(J/g)	2.870	15.31	17.22	2.870	-4.096
Heat Flow	(W*)	1550	3204	3604	1550	0.0000
Name		C_from_a	C_from_b	C_Tr+K_Tr	Feed	Feed_Pulling
Vapour Fraction		0.0000	1.0000	0.0000	1.0000	1.0000
Temperature	(K)	4.425	320.0 *	4.425	323.1 *	323.1 *
Pressure	(bar)	1.220	1.050	1.220	22.00 *	22.00 *
Mass Flow	(g/s)	0.0000 *	0.0000	0.0000 *	245.5 *	10.30 *
Mass Enthalpy	(J/g)	-4.096	1662	-4.096	1685	1685
Heat Flow	(W*)	0.0000	0.0000	0.0000	4.137e+005	1.736e+004

* Specified by user.

Workbook: Case (Main) (continued)

Streams (continued)

Fluid Pkg: All

Name		From_buffer	From_bypass_LP/MP	From_bypass_MP/HP	From_Leaks+Bearings	From_T01
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	320.0 *	320.0 *	320.0 *	320.0 *	206.0
Pressure	(bar)	1.050	1.050	4.825	1.050	12.69
Mass Flow	(g/s)	18.60 *	25.15	105.4	141.5	1188
Mass Enthalpy	(J/g)	1662	1662	1663	1662	1074
Heat Flow	(W*)	3.091e+004	4.180e+004	1.753e+005	2.351e+005	1.276e+006
Name		From_T02	From_T03	From_T04	From_T05	From_T06
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	100.0	44.60	19.10	8.851	5.485
Pressure	(bar)	4.970	4.990	5.000	1.220	3.000 *
Mass Flow	(g/s)	1188	875.5	1001	430.6	540.7
Mass Enthalpy	(J/g)	520.9	231.9	96.31	43.52	5.051
Heat Flow	(W*)	6.185e+005	2.030e+005	9.638e+004	1.874e+004	2731
Name		Gas_bearings	K_from_a	K_from_b	Leak_T01	Leak_T02
Vapour Fraction		1.0000	0.0000	1.0000	1.0000	1.0000
Temperature	(K)	323.2	4.425	80.00 *	206.0	100.0
Pressure	(bar)	20.50	1.220	1.190	12.69	4.970
Mass Flow	(g/s)	136.1 *	0.0000	0.0000	0.5400 *	0.5200 *
Mass Enthalpy	(J/g)	1685	-4.096	415.7	1074	520.9
Heat Flow	(W*)	2.293e+005	0.0000	0.0000	580.0	270.8
Name		Leak_T03	Leak_T04	Leak_T05	Leak_T06	Leaks
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	44.60	19.10	8.851	5.485	44.02
Pressure	(bar)	4.990	5.000	1.220	3.000	1.220
Mass Flow	(g/s)	0.4900 *	0.7400 *	0.6300 *	0.7400 *	5.360
Mass Enthalpy	(J/g)	231.9	96.31	43.52	5.051	228.6
Heat Flow	(W*)	113.6	71.27	27.42	3.738	1226
Name		LHe	LHe to trucks and stor	Q-102	Q_ORS	Q_pipeBP
Vapour Fraction		0.0000	0.0000	---	---	---
Temperature	(K)	4.425	4.425	---	---	---
Pressure	(bar)	1.220	1.220	---	---	---
Mass Flow	(g/s)	330.7	330.7	---	---	---
Mass Enthalpy	(J/g)	-4.096	-4.096	---	---	---
Heat Flow	(W*)	-1354	-1354	4584	0.0000 *	0.0000 *
Name		Q_pipeHP	Q_pipeMP	Rising level from truck	To_Ads20K_regen	To_ads80K_regen
Vapour Fraction		---	---	1.0000 *	1.0000	1.0000
Temperature	(K)	---	---	4.425	19.68	66.30
Pressure	(bar)	---	---	1.220	19.77	20.09
Mass Flow	(g/s)	---	---	56.29	1.700 *	0.0000 *
Mass Enthalpy	(J/g)	---	---	15.31	93.32	348.5
Heat Flow	(W*)	0.0000 *	0.0000 *	861.9	158.6	0.0000
Name		To_buffer	To_bypass_LP/MP	To_bypass_MP/HP	To_leaks+bearings	To_T01
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	323.2	323.1	323.2	313.7	235.1
Pressure	(bar)	20.50	4.825	20.50	1.220	20.10
Mass Flow	(g/s)	0.0000 *	25.15 *	105.4 *	141.5	1188
Mass Enthalpy	(J/g)	1685	1680	1685	1630	1228
Heat Flow	(W*)	0.0000	4.224e+004	1.775e+005	2.305e+005	1.458e+006
Name		To_T02	To_T03	To_T04	To_T05	To_T06
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(K)	129.3	66.31	28.68	19.67	7.338
Pressure	(bar)	12.44	19.68	19.59	19.37	19.35
Mass Flow	(g/s)	1188	875.5	1001	430.6	540.7
Mass Enthalpy	(J/g)	675.2	348.5	145.9	93.40	14.61
Heat Flow	(W*)	8.018e+005	3.051e+005	1.461e+005	4.022e+004	7898

* Specified by user.

Workbook: Case (Main) (continued)

Streams (continued)

Fluid Pkg: All

Name		W_ads_20K	W_Ads_80K	W_dewar	W_T01	W_T02
Vapour Fraction		---	---	---	---	---
Temperature	(K)	---	---	---	---	---
Pressure	(bar)	---	---	---	---	---
Mass Flow	(g/s)	---	---	---	---	---
Mass Enthalpy	(J/g)	---	---	---	---	---
Heat Flow	(W*)	-75.00 *	0.0000 *	300.0 *	1.824e+005	1.832e+005
Name		W_T03	W_T04	W_T05	W_T06	W_trucks_300K
Vapour Fraction		---	---	---	---	---
Temperature	(K)	---	---	---	---	---
Pressure	(bar)	---	---	---	---	---
Mass Flow	(g/s)	---	---	---	---	---
Mass Enthalpy	(J/g)	---	---	---	---	---
Heat Flow	(W*)	1.020e+005	4.967e+004	2.148e+004	5166	0.0000
Name		W_trucks_80K	W_vapor_from_storag	W_vapor_from_trucks		
Vapour Fraction		---	---	---		
Temperature	(K)	---	---	---		
Pressure	(bar)	---	---	---		
Mass Flow	(g/s)	---	---	---		
Mass Enthalpy	(J/g)	---	---	---		
Heat Flow	(W*)	0.0000	400.0 *	800.0 *		

* Specified by user.