Workbook: Case (Main)

Material Streams

Fluid Pkg: All

Name		Stream 1	Stream 2	Stream 11a	Stream 11b	Stream 18
Vapour Fraction		0.0000 *	1.0000 *	1.0000	1.0000	0.0000
Temperature	(C)	20.00 *	35.00 *	802.1	172.8	86.76
Pressure	(kPa)	1.000e+04 *	110.0 *	4540	4520 *	4520
Molar Flow	(kgmole/h)	391.0	1190 *	1190	1190	801.2
Mass Flow	(kg/h)	1.721e+04 *	2660	2660	2660	1.992e+04
Liquid Volume Flow	(m3/h)	20.85	34.16	34.16	34.16	23.18
Heat Flow	(kJ/h)	-1.585e+08	-3.602e+06	2.354e+07	1.180e+06	-2.067e+08
Name		Stream 15	Stream 10 (purge)	Stream 8	Stream 3	Stream 6
Vapour Fraction		1.0000	1.0000	1.0000	1.0000	1.0000
Temperature	(C)	37.60	31.10	48.87	48.78 *	33.42
Pressure	(kPa)	4500	4500	5240	5240 *	5240
Molar Flow	(kgmole/h)	1210	1.000e-02 *	8654	8657	9048
Mass Flow	(kg/h)	3899	0.1206	1.044e+05	1.044e+05 *	1.216e+05
Liquid Volume Flow	(m3/h)	35.72	3.440e-04	297.7	297.8	318.6
Heat Flow	(kJ/h)	-1.289e+07	-898.1	-7.724e+08	-7.726e+08	-9.311e+08
Name		Stream 4	Stream 9	Stream 7	Stream 5	Stream 20
Vapour Fraction		1.0000	0.9529	1.0000	1.0000	1.0000
Temperature	(C)	250.0 *	100.6	225.0 *	250.0 *	39.09
Pressure	(kPa)	5000	4930	5170 *	5100	101.3
Molar Flow	(kgmole/h)	8264	8264	9048	9048	1.171
Mass Flow	(kg/h)	1.216e+05	1.216e+05	1.216e+05	1.216e+05	12.52
Liquid Volume Flow	(m3/h)	286.7	286.7	318.6	318.6	3.767e-02
Heat Flow	(kJ/h)	-8.908e+08	-9.474e+08	-8.745e+08	-8.670e+08	-6.797e+04
Name		Stream 23	Stream 22	Stream 13b	Dummy	Stream 13
Vapour Fraction		0.0000	0.0000	0.0000	0.0000	0.0000
Temperature	(C)	39.09	101.3	31.04 *	250.0	31.10
Pressure	(kPa)	101.3	110.0	4500 *	5000	4500 *
Molar Flow	(kgmole/h)	390.4	409.6	821.2 *	0.0000	820.5
Mass Flow	(kg/h)	1.251e+04	7400	2.116e+04	0.0000	2.114e+04
Liquid Volume Flow	(m3/h)	15.72	7.427	24.74	0.0000	24.71
Heat Flow	(kJ/h)	-9.411e+07	-1.147e+08	-2.205e+08	0.0000	-2.203e+08
Name		Stream 8a	Stream 14	Stream 12	Stream 19	
Vapour Fraction		1.0000	0.8998	1.0000	0.0015	
Temperature	(C)	31.10	31.00 *	31.10	87.63	
Pressure	(kPa)	4500	4860	4500 *	500.0	
Molar Flow	(kgmole/h)	8654	8264	8654	801.2	
Mass Flow	(kg/h)	1.044e+05	1.216e+05	1.044e+05	1.992e+04	
Liquid Volume Flow	(m3/h)	297.7	286.7	297.7	23.18	
Heat Flow	(kJ/h)	-7.772e+08	-9.846e+08	-7.772e+08	-2.067e+08	

Compositions

Fluid Pkg: All

Name	Stream 1	Stream 2	Stream 11a	Stream 11b	Stream 18
Comp Mole Frac (CO2)	1.0000 *	0.0000 *	0.0000	0.0000	0.0000
Comp Mole Frac (CO)	0.0000 *	0.0000 *	0.0000	0.0000	0.0000
Comp Mole Frac (Hydrogen)	0.0000 *	0.9863 *	0.9863	0.9863	0.0011
Comp Mole Frac (H2O)	0.0000 *	0.0137 *	0.0137	0.0137	0.5096
Comp Mole Frac (Methanol)	0.0000 *	0.0000 *	0.0000	0.0000	0.4894
Name	Stream 15	Stream 10 (purge)	Stream 8	Stream 3	Stream 6
Comp Mole Frac (CO2)	0.0254	0.2176	0.2176	0.2176 *	0.2514
Comp Mole Frac (CO)	0.0001	0.0311	0.0311	0.0311 *	0.0297
Comp Mole Frac (Hydrogen)	0.9695	0.7476	0.7476	0.7476 *	0.7153
Comp Mole Frac (H2O)	0.0009	0.0009	0.0009	0.0009 *	0.0008
Comp Mole Frac (Methanol)	0.0041	0.0029	0.0029	0.0029 *	0.0028

* Specified by user.

Workbook: Case (Main) (continued)

Compositions (continued)

Fluid Pkg: All

Name	Stream 4	Stream 9	Stream 7	Stream 5	Stream 20
Comp Mole Frac (CO2)	0.2278	0.2278	0.2514	0.2514	0.0029
Comp Mole Frac (CO)	0.0326	0.0326	0.0297	0.0297	0.0000
Comp Mole Frac (Hydrogen)	0.6409	0.6409	0.7153	0.7153	0.7121
Comp Mole Frac (H2O)	0.0483	0.0483	0.0008	0.0008	0.0000
Comp Mole Frac (Methanol)	0.0505	0.0505	0.0028	0.0028	0.2850
Name	Stream 23	Stream 22	Stream 13b	Dummy	Stream 13
Comp Mole Frac (CO2)	0.0000	0.0000	0.0375 *	0.2278	0.0374
Comp Mole Frac (CO)	0.0000	0.0000	0.0001 *	0.0326	0.0001
Comp Mole Frac (Hydrogen)	0.0000	0.0000	0.0004 *	0.6409	0.0004
Comp Mole Frac (H2O)	0.0001	0.9965	0.4786 *	0.0483	0.4787
Comp Mole Frac (Methanol)	0.9998	0.0035	0.4835 *	0.0505	0.4834
Name	Stream 8a	Stream 14	Stream 12	Stream 19	
Comp Mole Frac (CO2)	0.2176	0.2278	0.2176	0.0000	
Comp Mole Frac (CO)	0.0311	0.0326	0.0311	0.0000	
Comp Mole Frac (Hydrogen)	0.7476	0.6409	0.7476	0.0011	
Comp Mole Frac (H2O)	0.0009	0.0483	0.0009	0.5096	
Comp Mole Frac (Methanol)	0.0029	0.0505	0.0029	0.4894	

Energy Streams

Fluid Pkg: All

Name	K-202Q	E-201Q	ST-Q	E-203Q	E-201-Q
Heat Flow (kJ/h)	2.714e+07	2.236e+07	2.272e+05	3.721e+07	7.516e+06
Name	DC-701QC	DC-701QR	1Q	R-201	
Heat Flow (kJ/h)	6.318e+07	6.094e+07	4.813e+06	-2.380e+07	

Unit Ops

Operation Name	Operation Type	Feeds	Products	Ignored	Calc Level
K-202	Compressor	Stream 2 K-202Q	Stream 11a	No	500.0 *
K-100	Compressor	Stream 8a 1Q	Stream 8	No	500.0 *
E-100	Cooler	Stream 11a	Stream 11b E-201Q	No	500.0 *
E-203	Cooler	Stream 9	Stream 14 E-203Q	No	500.0 *
ST-201	Refluxed Absorber	Stream 11b Stream 13b	Stream 18 Stream 15 ST-Q	No	2500 *
S-201	Separator	Stream 15 Stream 14	Stream 13 Stream 12	No	500.0 *
MIX-100	Mixer	Stream 1 Stream 3	Stream 6	No	500.0 *
E-202	Heat Exchanger	Stream 4 Stream 6	Stream 9 Stream 7	No	500.0 *
E-201	Heater	Stream 7 E-201-Q	Stream 5	No	500.0 *
DC-701	Distillation	Stream 19 DC-701QR	Stream 22 Stream 20 Stream 23 DC-701QC	No	2500 *
R-201	Conversion Reactor	Stream 5 R-201	Dummy Stream 4 R-201	No	500.0 *
TEE-100	Tee	Stream 12	Stream 10 (purge) Stream 8a	No	500.0 *
VL-201	Valve	Stream 18	Stream 19	No	500.0 *
RCY-1	Recycle	Stream 8	Stream 3	No	3500 *
RCY-2	Recycle	Stream 13	Stream 13b	No	3500 *

* Specified by user.