


PROJECT :			DATE :	
PROJ. NO.:			BY :	S. Rahimi
CLIENT:			REV :	A
UNIT :			DOC NO.:	

PSV Sizing For Supercritical Fluid - Nonefire Case

RV Tag Number:	43-RV-001	
Equipment Tag No	V-4301	
P&ID NO.	43-DWG-001-A	
Relief Rate	kg/hr	434466
Set Pressure	barg	613
Critical Temperature	C	-18.15
Critical Pressure	bar	101.17
Relieving Pressure	barg	674.3
Relieving Temperature	C	113.5
Molar Entropy @ Relieving Con.	kcal/kgmol-C	137.9

Molar Entropy	Press	Temp	Mass Enthalpy	Mass Density	Mass Flux	Max Mass Flux
kcal/kgmol°C	bara	°C	kcal/kg	kg/m3	kg/hr-in2	kg/hr-in2
137.90	674.3	113.7	-1207.5	431.60	0	341342
137.90	658.5	112.3	-1208.4	428.42	87797	
137.90	642.7	110.9	-1209.4	425.17	123403	
137.90	626.9	109.5	-1210.3	421.84	150180	
137.90	611.1	108.0	-1211.2	418.42	172275	
137.90	595.3	106.5	-1212.2	414.93	191300	
137.90	579.4	104.9	-1213.2	411.34	208083	
137.90	563.6	103.3	-1214.1	407.66	223113	
137.90	547.8	101.7	-1215.1	403.88	236707	
137.90	532.0	100.0	-1216.1	400.00	249084	
137.90	516.2	98.3	-1217.1	396.00	260402	
137.90	500.4	96.5	-1218.1	391.89	270775	
137.90	484.6	94.7	-1219.1	387.66	280290	
137.90	468.8	92.8	-1220.1	383.31	289016	
137.90	453.0	90.9	-1221.1	378.81	297002	
137.90	437.2	88.9	-1222.1	374.17	304286	
137.90	421.3	86.8	-1223.2	369.37	310897	
137.90	405.5	84.7	-1224.2	364.41	316857	
137.90	389.7	82.5	-1225.3	359.27	322177	
137.90	373.9	80.2	-1226.4	353.94	326865	
137.90	358.1	77.8	-1227.5	348.40	330922	
137.90	342.3	75.3	-1228.6	342.64	334342	
137.90	326.5	72.6	-1229.7	336.64	337115	
137.90	310.7	69.9	-1230.8	330.39	339223	
137.90	294.9	67.0	-1232.0	323.84	340643	
137.90	279.1	64.0	-1233.2	316.98	341342	
137.90	263.2	60.8	-1234.4	309.78	341283	
137.90	247.4	57.4	-1235.6	302.19	340413	
137.90	231.6	53.8	-1236.8	294.14	338633	
137.90	215.8	49.9	-1238.1	285.66	335976	
137.90	200.0	45.7	-1239.4	276.61	332231	
Orifice Area					in2	1.305
Orifice Area					mm2	842