

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 1/10

건도 %	0.1 bar a (tsat = 45.81 oC)				0.2 bar a (tsat = 60.06 oC)				0.3 bar a (tsat = 69.10 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	16.49	0.0582	2506.7	393.0	32.35	0.1162	2528.3	401.6	47.98	0.1741	2541.7	407.0	100
95	16.91	0.0582	2391.0	382.8	33.17	0.1163	2414.5	391.3	49.18	0.1742	2429.2	396.5	95
90	17.36	0.0583	2275.3	372.5	34.05	0.1164	2300.7	380.7	50.48	0.1744	2316.6	385.7	90
85	17.84	0.0583	2159.6	361.8	35.00	0.1165	2187.0	369.7	51.89	0.1746	2204.1	374.6	85
80	18.38	0.0584	2043.9	350.8	36.04	0.1166	2073.2	358.5	53.42	0.1748	2091.5	363.2	80
75	18.96	0.0585	1928.3	339.4	37.18	0.1168	1959.4	346.8	55.10	0.1750	1979.0	351.4	75
70	19.60	0.0585	1812.6	327.7	38.43	0.1170	1845.6	334.8	56.95	0.1753	1866.4	339.2	70
65	20.31	0.0586	1696.9	315.5	39.81	0.1171	1731.8	322.4	59.00	0.1756	1753.9	326.6	65
60	21.10	0.0587	1581.2	302.8	41.36	0.1173	1618.1	309.4	61.29	0.1760	1641.3	313.4	60
55	22.00	0.0588	1465.5	289.6	43.11	0.1176	1504.3	295.8	63.86	0.1764	1528.8	299.6	55
50	23.02	0.0590	1349.8	275.7	45.09	0.1179	1390.5	281.6	66.79	0.1768	1416.2	285.2	50
45	24.19	0.0591	1234.1	261.2	47.38	0.1183	1276.7	266.7	70.17	0.1774	1303.6	270.1	45
40	25.57	0.0593	1118.5	245.7	50.06	0.1187	1163.0	250.9	74.12	0.1782	1191.1	254.0	40
35	27.22	0.0596	1002.8	229.3	53.25	0.1193	1049.2	234.0	78.82	0.1790	1078.5	236.9	35
30	29.23	0.0599	887.1	211.5	57.15	0.1200	935.4	215.9	84.55	0.1802	966.0	218.5	30
25	31.76	0.0604	771.3	192.3	62.06	0.1210	821.6	196.1	91.75	0.1817	853.4	198.5	25
20	35.11	0.0610	655.6	170.9	68.50	0.1224	707.7	174.2	101.2	0.1839	740.8	176.2	20
15	39.80	0.0620	539.9	146.5	77.51	0.1245	593.9	149.2	114.4	0.1873	628.1	150.9	15
10	47.12	0.0637	424.1	117.4	91.48	0.1282	480.0	119.5	134.7	0.1931	515.5	120.7	10
5	61.21	0.0676	308.3	79.6	118.0	0.1364	366.0	80.8	173.0	0.2057	402.7	81.5	5
4	66.03	0.0691	285.0	69.9	127.0	0.1395	343.2	71.0	185.9	0.2104	380.1	71.6	4
3	72.32	0.0711	261.8	59.1	138.6	0.1437	320.3	59.9	202.5	0.2168	357.5	60.4	3
2	81.14	0.0742	238.6	46.4	154.8	0.1498	297.4	47.0	225.4	0.2261	334.8	47.4	2
1	95.37	0.0795	215.3	30.4	180.5	0.1604	274.5	30.8	261.6	0.2420	312.1	31.1	1

건도 %	0.4 bar a (tsat = 75.86 oC)				0.5 bar a (tsat = 81.32 oC)				0.6 bar a (tsat = 85.93 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	63.44	0.2319	2551.6	410.9	78.78	0.2897	2559.5	414.0	94.03	0.3475	2566.1	416.5	100
95	65.03	0.2321	2440.0	400.3	80.75	0.2900	2448.7	403.2	96.38	0.3479	2455.9	405.8	95
90	66.74	0.2324	2328.4	389.4	82.88	0.2904	2337.8	392.3	98.91	0.3482	2345.7	394.7	90
85	68.60	0.2326	2216.8	378.2	85.18	0.2907	2226.9	381.0	101.7	0.3487	2235.4	383.3	85
80	70.63	0.2329	2105.1	366.7	87.69	0.2910	2116.0	369.4	104.7	0.3491	2125.2	371.6	80
75	72.84	0.2333	1993.5	354.7	90.44	0.2915	2005.2	357.3	107.9	0.3497	2015.0	359.5	75
70	75.28	0.2337	1881.9	342.4	93.46	0.2919	1894.3	344.9	111.5	0.3503	1904.8	346.9	70
65	77.98	0.2340	1770.3	329.6	96.80	0.2925	1783.4	332.0	115.5	0.3509	1794.5	334.0	65
60	80.99	0.2345	1658.6	316.3	100.5	0.2932	1672.6	318.6	119.9	0.3517	1684.3	320.5	60
55	84.39	0.2351	1547.0	302.4	104.7	0.2939	1561.7	304.6	124.9	0.3526	1574.1	306.4	55
50	88.25	0.2358	1435.4	287.8	109.5	0.2947	1450.8	289.9	130.6	0.3537	1463.8	291.6	50
45	92.69	0.2366	1323.8	272.5	115.0	0.2958	1339.9	274.4	137.2	0.3550	1353.6	276.1	45
40	97.88	0.2376	1212.1	256.3	121.4	0.2971	1229.1	258.1	144.8	0.3566	1243.3	259.6	40
35	104.1	0.2389	1100.5	239.0	129.1	0.2987	1118.2	240.7	153.9	0.3586	1133.1	242.1	35
30	111.6	0.2405	988.8	220.4	138.4	0.3008	1007.3	221.9	164.9	0.3612	1022.8	223.2	30
25	121.0	0.2426	877.2	200.1	150.0	0.3036	896.4	201.5	178.8	0.3646	912.6	202.6	25
20	133.4	0.2457	765.5	177.7	165.3	0.3075	785.4	178.8	196.9	0.3694	802.3	179.8	20
15	150.6	0.2503	653.8	152.1	186.5	0.3134	674.5	153.0	222.0	0.3767	692.0	153.8	15
10	177.1	0.2582	542.0	121.6	219.0	0.3236	563.5	122.3	260.4	0.3891	581.6	122.9	10
5	226.8	0.2754	430.1	82.1	279.6	0.3454	452.3	82.5	331.7	0.4157	471.1	82.8	5
4	243.4	0.2817	407.7	72.1	299.7	0.3535	430.0	72.4	355.2	0.4254	448.9	72.7	4
3	264.7	0.2903	385.3	60.8	325.6	0.3642	407.7	61.1	385.5	0.4384	426.7	61.4	3
2	294.0	0.3028	362.8	47.7	361.0	0.3798	385.4	48.0	426.7	0.4571	404.5	48.2	2
1	339.9	0.3238	340.3	31.3	416.1	0.4060	363.0	31.5	490.6	0.4883	382.3	31.7	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 2/10

건도 %	0.7 bar a (tsat = 89.93 oC)				0.8 bar a (tsat = 93.49 oC)				0.9 bar a (tsat = 96.69 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	109.2	0.4052	2571.8	418.7	124.3	0.4630	2576.7	420.6	139.3	0.5207	2581.2	422.3	100
95	111.9	0.4057	2462.1	407.9	127.4	0.4635	2467.6	409.7	142.8	0.5213	2472.5	411.3	95
90	114.9	0.4062	2352.5	396.7	130.7	0.4640	2358.4	398.5	146.6	0.5219	2363.8	400.1	90
85	118.1	0.4066	2242.8	385.3	134.4	0.4646	2249.3	387.0	150.6	0.5226	2255.1	388.5	85
80	121.5	0.4072	2133.1	373.5	138.3	0.4653	2140.1	375.2	155.0	0.5233	2146.3	376.6	80
75	125.3	0.4078	2023.4	361.4	142.6	0.4660	2030.9	363.0	159.9	0.5242	2037.6	364.3	75
70	129.5	0.4086	1913.8	348.7	147.4	0.4669	1921.8	350.3	165.2	0.5251	1928.9	351.7	70
65	134.1	0.4093	1804.1	335.7	152.6	0.4678	1812.6	337.1	171.0	0.5262	1820.2	338.5	65
60	139.2	0.4103	1694.4	322.1	158.5	0.4689	1703.4	323.5	177.6	0.5275	1711.5	324.7	60
55	145.0	0.4114	1584.8	307.9	165.0	0.4702	1594.3	309.3	184.9	0.5290	1602.8	310.5	55
50	151.6	0.4128	1475.1	293.0	172.5	0.4717	1485.1	294.3	193.3	0.5307	1494.1	295.5	50
45	159.2	0.4143	1365.4	277.4	181.1	0.4736	1375.9	278.6	202.9	0.5328	1385.4	279.7	45
40	168.0	0.4162	1255.7	260.9	191.1	0.4757	1266.7	262.0	214.1	0.5354	1276.6	262.9	40
35	178.5	0.4186	1146.1	243.2	203.1	0.4786	1157.6	244.2	227.5	0.5386	1167.9	245.1	35
30	191.3	0.4217	1036.4	224.2	217.6	0.4821	1048.4	225.2	243.6	0.5427	1059.2	225.9	30
25	207.3	0.4258	926.7	203.5	235.7	0.4869	939.1	204.3	263.9	0.5481	950.4	205.1	25
20	228.2	0.4315	816.9	180.6	259.3	0.4935	829.9	181.3	290.3	0.5558	841.6	181.9	20
15	257.1	0.4401	707.2	154.4	292.1	0.5036	720.7	155.0	326.7	0.5672	732.8	155.5	15
10	301.3	0.4548	597.3	123.4	341.9	0.5207	611.3	123.8	382.2	0.5866	623.9	124.2	10
5	383.1	0.4861	487.4	83.2	433.9	0.5567	501.8	83.4	484.2	0.6275	514.9	83.7	5
4	410.0	0.4975	465.3	73.0	464.1	0.5698	479.9	73.2	517.7	0.6423	493.0	73.4	4
3	444.5	0.5127	443.3	61.6	502.7	0.5873	457.9	61.8	560.3	0.6620	471.2	62.0	3
2	491.4	0.5346	421.2	48.4	555.1	0.6123	435.9	48.5	618.0	0.6901	449.2	48.7	2
1	563.7	0.5708	399.0	31.9	635.6	0.6534	413.9	32.0	706.4	0.7362	427.3	32.2	1

건도 %	1 bar a (tsat = 99.61 oC)				2 bar a (tsat = 120.21 oC)				3 bar a (tsat = 133.53 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	154.3	0.5784	2585.1	423.8	302.3	1.155	2612.2	433.7	448.0	1.731	2628.3	439.6	100
95	158.2	0.5791	2476.9	412.8	309.8	1.157	2506.9	422.5	459.0	1.734	2525.1	428.1	95
90	162.3	0.5797	2368.6	401.5	317.8	1.158	2401.6	411.0	470.8	1.736	2421.9	416.4	90
85	166.8	0.5806	2260.3	389.9	326.5	1.160	2296.4	399.1	483.7	1.739	2318.6	404.3	85
80	171.7	0.5814	2152.0	377.9	336.0	1.162	2191.1	386.8	497.6	1.742	2215.4	391.9	80
75	177.0	0.5824	2043.7	365.6	346.3	1.164	2085.9	374.2	512.8	1.746	2112.2	379.0	75
70	182.9	0.5834	1935.4	352.9	357.7	1.167	1980.6	361.0	529.6	1.750	2009.0	365.8	70
65	189.4	0.5847	1827.1	339.6	370.3	1.169	1875.3	347.5	548.0	1.754	1905.8	351.9	65
60	196.6	0.5861	1718.8	325.9	384.3	1.173	1770.1	333.3	568.6	1.760	1802.5	337.6	60
55	204.8	0.5878	1610.5	311.5	400.0	1.176	1664.8	318.6	591.7	1.766	1699.3	322.6	55
50	214.0	0.5897	1502.2	296.5	417.8	1.181	1559.5	303.1	617.8	1.773	1596.1	306.9	50
45	224.6	0.5922	1394.0	280.6	438.3	1.186	1454.3	286.8	647.7	1.782	1492.8	290.4	45
40	237.0	0.5950	1285.6	263.9	462.1	1.193	1349.0	269.6	682.6	1.792	1389.6	273.0	40
35	251.8	0.5986	1177.3	245.9	490.3	1.201	1243.7	251.3	723.7	1.805	1286.3	254.3	35
30	269.6	0.6033	1069.0	226.7	524.5	1.211	1138.4	231.5	773.4	1.822	1183.0	234.3	30
25	292.0	0.6094	960.7	205.7	567.0	1.225	1033.0	210.0	835.2	1.843	1079.7	212.5	25
20	321.0	0.6181	852.3	182.4	622.1	1.244	927.7	186.1	914.8	1.873	976.4	188.3	20
15	361.2	0.6309	743.9	156.0	697.6	1.272	822.3	159.0	1023.5	1.918	873.0	160.8	15
10	422.3	0.6527	635.4	124.6	811.0	1.318	716.8	126.9	1185.6	1.990	769.6	128.3	10
5	534.1	0.6985	526.8	83.9	1014.7	1.414	611.1	85.5	1472.5	2.136	665.9	86.5	5
4	570.7	0.7150	505.0	73.6	1080.1	1.447	589.9	75.1	1563.4	2.186	645.1	76.1	4
3	617.2	0.7368	483.2	62.2	1162.4	1.491	568.7	63.5	1677.0	2.252	624.3	64.5	3
2	680.2	0.7681	461.4	48.9	1272.1	1.552	547.5	50.1	1826.9	2.342	603.4	51.1	2
1	776.2	0.8190	439.5	32.3	1435.3	1.650	526.1	33.6	2045.9	2.482	582.5	34.8	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

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표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 3/10

건도 %	4 bar a (tsat = 143.61 oC)				5 bar a (tsat = 151.84 oC)				6 bar a (tsat = 158.83 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	592.2	2.3069	2639.7	443.6	735.6	2.8833	2648.4	446.6	878.1	3.4595	2655.4	448.9	100
95	606.7	2.3103	2538.1	432.1	753.5	2.8876	2548.1	435.0	899.5	3.4646	2556.3	437.3	95
90	622.3	2.3142	2436.5	420.2	772.8	2.8925	2447.9	423.0	922.4	3.4712	2457.2	425.2	90
85	639.2	2.3181	2334.8	408.0	793.7	2.8980	2347.6	410.7	947.2	3.4778	2358.1	412.8	85
80	657.6	2.3225	2233.2	395.4	816.3	2.9035	2247.3	398.1	974.2	3.4851	2259.0	400.1	80
75	677.6	2.3279	2131.6	382.4	841.0	2.9102	2147.0	385.0	1003.6	3.4932	2159.9	387.0	75
70	699.5	2.3337	2030.0	369.0	868.2	2.9181	2046.8	371.4	1035.8	3.5027	2060.8	373.3	70
65	723.8	2.3401	1928.4	355.1	898.1	2.9266	1946.5	357.4	1071.4	3.5137	1961.7	359.2	65
60	750.8	2.3474	1826.7	340.6	931.4	2.9364	1846.2	342.8	1110.9	3.5261	1862.6	344.5	60
55	781.0	2.3562	1725.1	325.4	968.7	2.9480	1745.9	327.5	1155.1	3.5400	1763.4	329.2	55
50	815.2	2.3665	1623.5	309.6	1010.9	2.9608	1645.6	311.6	1205.1	3.5562	1664.3	313.2	50
45	854.5	2.3787	1521.8	292.9	1059.2	2.9767	1545.3	294.8	1262.3	3.5759	1565.2	296.2	45
40	900.0	2.3933	1420.2	275.3	1115.2	2.9962	1445.0	277.0	1328.6	3.6001	1466.0	278.3	40
35	953.7	2.4119	1318.5	256.4	1181.2	3.0194	1344.7	258.1	1406.6	3.6294	1366.9	259.3	35
30	1018.5	2.4348	1216.8	236.2	1260.6	3.0499	1244.3	237.6	1500.5	3.6660	1267.7	238.8	30
25	1098.8	2.4651	1115.1	214.1	1359.0	3.0890	1144.0	215.4	1616.4	3.7144	1168.5	216.5	25
20	1202.1	2.5066	1013.4	189.8	1485.2	3.1427	1043.6	190.9	1764.8	3.7803	1069.2	191.8	20
15	1342.5	2.5676	911.6	162.1	1656.0	3.2208	943.1	163.0	1965.2	3.8762	969.9	163.8	15
10	1550.4	2.6668	809.7	129.3	1907.8	3.3466	842.5	130.2	2259.1	4.0293	870.5	130.9	10
5	1914.6	2.8630	707.6	87.4	2344.7	3.5931	741.7	88.1	2764.8	4.3259	770.8	88.8	5
4	2028.9	2.9299	687.1	76.9	2480.6	3.6762	721.5	77.7	2921.0	4.4248	750.9	78.4	4
3	2170.8	3.0164	666.6	65.3	2648.5	3.7830	701.2	66.1	3113.0	4.5515	730.8	66.9	3
2	2356.4	3.1340	646.0	52.1	2866.6	3.9276	680.9	52.9	3360.8	4.7214	710.8	53.7	2
1	2623.8	3.3142	625.4	35.9	3176.7	4.1449	660.6	36.9	3709.3	4.9741	690.6	37.9	1

건도 %	7 bar a (tsat = 164.95 oC)				8 bar a (tsat = 170.41 oC)				9 bar a (tsat = 175.36 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	1020.2	4.0359	2661.1	450.8	1161.8	4.6126	2666.0	452.4	1303.0	5.1895	2670.1	453.7	100
95	1044.9	4.0427	2563.1	439.1	1189.8	4.6204	2568.9	440.6	1334.4	5.1983	2573.9	441.9	95
90	1071.5	4.0496	2465.0	427.0	1220.0	4.6292	2471.8	428.5	1368.1	5.2081	2477.7	429.8	90
85	1100.2	4.0581	2367.0	414.6	1252.6	4.6389	2374.7	416.0	1404.6	5.2191	2381.4	417.2	85
80	1131.4	4.0667	2268.9	401.8	1288.0	4.6487	2277.6	403.2	1444.1	5.2312	2285.2	404.3	80
75	1165.4	4.0769	2170.9	388.5	1326.5	4.6614	2180.5	389.8	1487.2	5.2455	2189.0	391.0	75
70	1202.6	4.0880	2072.8	374.9	1368.8	4.6741	2083.4	376.2	1534.4	5.2609	2092.8	377.2	70
65	1243.7	4.1008	1974.7	360.7	1415.4	4.6897	1986.3	361.9	1586.4	5.2785	1996.6	362.9	65
60	1289.4	4.1162	1876.7	345.9	1467.1	4.7063	1889.1	347.1	1644.2	5.2982	1900.3	348.1	60
55	1340.5	4.1333	1778.6	330.5	1525.0	4.7268	1792.0	331.6	1708.8	5.3213	1804.1	332.6	55
50	1398.2	4.1530	1680.5	314.4	1590.4	4.7503	1694.9	315.4	1781.7	5.3488	1707.9	316.3	50
45	1464.2	4.1769	1582.4	297.4	1665.0	4.7776	1597.8	298.4	1864.9	5.3806	1611.6	299.2	45
40	1540.6	4.2051	1484.3	279.5	1751.3	4.8118	1500.6	280.3	1961.0	5.4191	1515.3	281.1	40
35	1630.4	4.2401	1386.2	260.3	1852.8	4.8528	1403.5	261.1	2074.0	5.4652	1419.0	261.9	35
30	1738.4	4.2846	1288.1	239.7	1974.6	4.9036	1306.3	240.5	2209.4	5.5245	1322.7	241.2	30
25	1871.5	4.3418	1189.9	217.4	2124.6	4.9710	1209.1	218.1	2375.9	5.6014	1226.4	218.7	25
20	2041.6	4.4204	1091.7	192.6	2315.9	5.0628	1111.8	193.2	2588.0	5.7058	1130.0	193.8	20
15	2270.6	4.5341	993.4	164.5	2572.8	5.1936	1014.5	165.1	2872.0	5.8552	1033.6	165.7	15
10	2605.1	4.7152	895.1	131.5	2946.6	5.4026	917.0	132.0	3284.0	6.0914	937.0	132.5	10
5	3176.5	5.0613	796.4	89.4	3580.8	5.7971	819.3	90.0	3978.4	6.5353	840.1	90.6	5
4	3351.8	5.1758	776.6	79.0	3774.0	5.9270	799.7	79.7	4188.7	6.6792	820.7	80.3	4
3	3566.3	5.3211	756.8	67.6	4009.8	6.0911	780.1	68.3	4444.4	6.8616	801.3	68.9	3
2	3841.6	5.5159	737.0	54.5	4310.5	6.3088	760.4	55.3	4768.9	7.1022	781.8	56.1	2
1	4224.7	5.8004	717.0	38.9	4725.3	6.6253	740.7	39.9	5212.7	7.4483	762.2	40.9	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 4/10

건도 %	10 bar a (tsat = 179.89 oC)				12 bar a (tsat = 187.96 oC)				14 bar a (tsat = 195.05 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	1444.0	5.7666	2673.7	454.9	1725.2	6.9216	2679.5	456.6	2005.8	8.0776	2684.0	458.0	100
95	1478.6	5.7764	2578.3	443.0	1766.4	6.9348	2585.6	444.7	2053.5	8.0930	2591.5	446.0	95
90	1515.9	5.7886	2482.9	430.8	1810.7	6.9495	2491.7	432.4	2104.8	8.1101	2499.0	433.7	90
85	1556.2	5.8008	2387.5	418.2	1858.6	6.9641	2397.8	419.9	2160.1	8.1306	2406.5	421.0	85
80	1599.9	5.8142	2292.1	405.3	1910.4	6.9817	2303.9	406.9	2220.1	8.1511	2313.9	408.0	80
75	1647.4	5.8301	2196.7	392.0	1966.9	7.0022	2210.1	393.4	2285.3	8.1751	2221.4	394.5	75
70	1699.6	5.8484	2101.3	378.1	2028.7	7.0227	2116.1	379.6	2356.7	8.2007	2128.8	380.7	70
65	1757.0	5.8679	2005.9	363.8	2096.8	7.0476	2022.2	365.2	2435.3	8.2315	2036.3	366.2	65
60	1820.7	5.8899	1910.5	348.9	2172.3	7.0769	1928.3	350.2	2522.4	8.2656	1943.7	351.2	60
55	1891.9	5.9168	1815.1	333.3	2256.6	7.1091	1834.4	334.6	2619.6	8.3049	1851.2	335.6	55
50	1972.3	5.9473	1719.6	317.1	2351.7	7.1472	1740.5	318.3	2729.1	8.3511	1758.6	319.2	50
45	2063.9	5.9839	1624.2	299.9	2460.0	7.1926	1646.5	301.1	2853.7	8.4041	1666.0	302.0	45
40	2169.8	6.0266	1528.7	281.8	2584.9	7.2468	1552.6	282.9	2997.4	8.4690	1573.4	283.7	40
35	2294.1	6.0803	1433.3	262.5	2731.4	7.3128	1458.6	263.5	3165.5	8.5476	1480.8	264.3	35
30	2442.9	6.1475	1337.8	241.7	2906.4	7.3948	1364.6	242.7	3366.1	8.6467	1388.1	243.5	30
25	2625.6	6.2341	1242.3	219.2	3121.0	7.5017	1270.6	220.1	3611.5	8.7732	1295.4	220.8	25
20	2858.0	6.3513	1146.7	194.3	3393.0	7.6453	1176.5	195.1	3921.7	8.9441	1202.7	195.8	20
15	3168.7	6.5186	1051.1	166.1	3755.0	7.8489	1082.4	167.0	4333.1	9.1851	1109.9	167.7	15
10	3617.7	6.7822	955.3	133.0	4275.1	8.1668	988.1	133.9	4920.8	9.5576	1016.9	134.7	10
5	4370.0	7.2730	859.3	91.2	5137.0	8.7527	893.5	92.2	5885.0	10.234	923.7	93.2	5
4	4596.6	7.4329	840.0	80.9	5394.0	8.9402	874.5	82.1	6169.7	10.450	905.0	83.2	4
3	4871.2	7.6331	820.7	69.6	5703.4	9.1746	855.5	70.9	6510.7	10.715	886.3	72.1	3
2	5217.9	7.8943	801.4	56.9	6090.7	9.4778	836.5	58.3	6934.0	11.056	867.5	59.8	2
1	5688.3	8.2678	782.0	41.8	6608.3	9.9011	817.4	43.7	7492.2	11.525	848.7	45.5	1

건도 %	16 bar a (tsat = 201.38 oC)				18 bar a (tsat = 207.12 oC)				20 bar a (tsat = 212.38 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	2286.0	9.2346	2687.6	459.0	2566.0	10.395	2690.4	459.6	2845.9	11.554	2692.5	460.2	100
95	2340.1	9.2542	2596.3	446.9	2626.5	10.417	2600.3	447.6	2912.7	11.578	2603.5	448.1	95
90	2398.3	9.2737	2505.0	434.6	2691.5	10.439	2510.1	435.3	2984.4	11.605	2514.5	435.8	90
85	2461.0	9.2971	2413.7	421.9	2761.6	10.465	2420.0	422.6	3061.8	11.635	2425.4	423.1	85
80	2529.0	9.3225	2322.4	408.9	2837.5	10.494	2329.9	409.5	3145.6	11.669	2336.4	410.0	80
75	2603.0	9.3499	2231.1	395.4	2920.0	10.527	2239.7	396.0	3236.7	11.705	2247.4	396.4	75
70	2683.8	9.3811	2139.8	381.4	3010.3	10.562	2149.6	382.1	3336.2	11.747	2158.3	382.5	70
65	2772.8	9.4163	2048.5	367.0	3109.5	10.604	2059.5	367.6	3445.5	11.793	2069.3	368.0	65
60	2871.3	9.4553	1957.2	352.0	3219.3	10.650	1969.3	352.5	3566.5	11.844	1980.2	353.0	60
55	2981.2	9.5022	1865.9	336.3	3341.7	10.702	1879.1	336.8	3701.3	11.906	1891.1	337.2	55
50	3104.9	9.5569	1774.6	319.9	3479.4	10.764	1789.0	320.4	3852.8	11.976	1802.1	320.8	50
45	3245.6	9.6194	1683.2	302.6	3635.9	10.836	1698.8	303.2	4024.8	12.059	1713.0	303.5	45
40	3407.6	9.6956	1591.9	284.4	3815.8	10.924	1608.6	284.9	4222.4	12.157	1623.8	285.2	40
35	3596.9	9.7874	1500.5	264.9	4026.0	11.030	1518.4	265.4	4453.0	12.277	1534.7	265.8	35
30	3822.5	9.9026	1409.1	244.1	4275.9	11.162	1428.1	244.6	4726.8	12.426	1445.6	244.9	30
25	4097.8	10.049	1317.7	221.4	4580.5	11.331	1337.8	221.9	5059.9	12.614	1356.3	222.4	25
20	4445.1	10.246	1226.2	196.5	4963.7	11.555	1247.5	197.0	5478.0	12.865	1267.1	197.4	20
15	4904.0	10.526	1134.6	168.3	5468.5	11.869	1157.1	168.9	6027.1	13.217	1177.7	169.4	15
10	5556.2	10.951	1042.9	135.4	6182.2	12.350	1066.5	136.1	6799.8	13.749	1088.2	136.8	10
5	6616.2	11.719	950.9	94.2	7332.3	13.203	975.7	95.2	8034.6	14.686	998.5	96.2	5
4	6926.5	11.959	932.4	84.3	7666.1	13.467	957.4	85.3	8390.3	14.974	980.5	86.4	4
3	7296.0	12.254	913.9	73.4	8061.8	13.790	939.2	74.6	8809.9	15.323	962.4	75.8	3
2	7751.5	12.629	895.4	61.2	8546.1	14.198	920.9	62.7	9320.1	15.763	944.4	64.0	2
1	8344.9	13.141	876.8	47.2	9170.2	14.748	902.5	48.9	9971.1	16.344	926.2	50.6	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 5/10

건도 %	22 bar a (tsat = 217.26 oC)				24 bar a (tsat = 221.80 oC)				26 bar a (tsat = 226.05 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	3125.7	12.717	2694.2	460.4	3405.7	13.878	2695.4	460.7	3685.9	15.044	2696.3	460.7	100
95	3198.8	12.744	2606.2	448.4	3485.1	13.910	2608.4	448.6	3771.4	15.075	2610.2	448.7	95
90	3277.3	12.773	2518.2	436.1	3570.3	13.943	2521.4	436.3	3863.3	15.114	2524.2	436.4	90
85	3362.0	12.808	2430.2	423.3	3662.0	13.981	2434.4	423.6	3962.2	15.155	2438.1	423.7	85
80	3453.5	12.843	2342.2	410.3	3761.3	14.022	2347.4	410.5	4069.1	15.202	2352.1	410.5	80
75	3553.0	12.886	2254.2	396.7	3869.2	14.069	2260.4	396.9	4185.3	15.250	2265.9	397.1	75
70	3661.7	12.932	2166.2	382.8	3987.0	14.118	2173.3	383.0	4312.1	15.307	2179.9	383.1	70
65	3781.1	12.983	2078.1	368.3	4116.3	14.177	2086.3	368.5	4451.3	15.371	2093.8	368.6	65
60	3913.1	13.042	1990.1	353.3	4259.3	14.241	1999.2	353.5	4605.0	15.444	2007.7	353.6	60
55	4060.1	13.112	1902.1	337.5	4418.3	14.318	1912.2	337.7	4776.0	15.526	1921.6	337.9	55
50	4225.2	13.189	1814.0	321.1	4596.9	14.406	1825.1	321.3	4967.8	15.625	1835.4	321.4	50
45	4412.5	13.281	1726.0	303.8	4799.3	14.508	1738.0	304.0	5185.1	15.736	1749.3	304.2	45
40	4627.6	13.391	1637.9	285.6	5031.4	14.628	1650.9	285.8	5434.2	15.869	1663.1	286.0	40
35	4878.1	13.525	1549.8	266.1	5301.7	14.778	1563.8	266.4	5723.7	16.031	1577.0	266.6	35
30	5175.4	13.692	1461.7	245.3	5621.8	14.959	1476.7	245.6	6066.3	16.231	1490.7	245.8	30
25	5536.3	13.901	1373.5	222.7	6009.9	15.191	1389.5	223.0	6481.1	16.485	1404.5	223.3	25
20	5988.4	14.180	1285.3	197.8	6495.1	15.498	1302.2	198.2	6998.5	16.818	1318.2	198.6	20
15	6580.3	14.567	1196.9	169.9	7128.5	15.920	1214.9	170.4	7672.0	17.278	1231.8	170.8	15
10	7409.6	15.153	1108.5	137.4	8012.1	16.559	1127.4	138.0	8607.8	17.964	1145.2	138.6	10
5	8724.3	16.170	1019.7	97.1	9402.4	17.655	1039.6	98.0	10069	19.138	1058.4	99.0	5
4	9100.2	16.482	1001.9	87.4	9797.0	17.986	1022.0	88.5	10482	19.487	1041.0	89.6	4
3	9541.7	16.855	984.1	77.0	10259	18.384	1004.4	78.2	10962	19.909	1023.5	79.3	3
2	10075	17.323	966.2	65.4	10813	18.876	986.7	66.8	11536	20.427	1006.0	68.1	2
1	10750	17.935	948.3	52.3	11509	19.518	969.0	53.9	12249	21.093	988.5	55.5	1

건도 %	28 bar a (tsat = 230.06 oC)				30 bar a (tsat = 233.86 oC)				32 bar a (tsat = 237.46 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	3966.3	16.207	2696.9	460.7	4247.0	17.375	2697.2	460.6	4528.0	18.545	2697.3	460.4	100
95	4058.0	16.245	2611.7	448.7	4344.8	17.416	2612.9	448.6	4632.0	18.588	2613.8	448.4	95
90	4156.4	16.286	2526.6	436.3	4449.8	17.460	2528.6	436.3	4743.5	18.635	2530.4	436.1	90
85	4262.4	16.330	2441.4	423.7	4562.8	17.511	2444.3	423.5	4863.5	18.690	2446.9	423.4	85
80	4377.0	16.382	2356.2	410.5	4685.0	17.566	2360.1	410.4	4993.2	18.748	2363.5	410.3	80
75	4501.4	16.436	2271.1	397.1	4817.6	17.625	2275.7	397.0	5133.9	18.815	2280.1	396.8	75
70	4637.2	16.498	2185.9	383.1	4962.2	17.694	2191.5	383.0	5287.3	18.889	2196.6	382.9	70
65	4786.1	16.570	2100.7	368.6	5120.8	17.767	2107.1	368.6	5455.5	18.971	2113.1	368.5	65
60	4950.5	16.648	2015.5	353.6	5295.8	17.855	2022.8	353.5	5640.9	19.065	2029.7	353.4	60
55	5133.3	16.740	1930.3	337.9	5490.3	17.954	1938.5	337.9	5846.9	19.170	1946.2	337.8	55
50	5338.2	16.843	1845.1	321.5	5708.1	18.068	1854.1	321.5	6077.6	19.291	1862.7	321.5	50
45	5570.2	16.966	1759.8	304.3	5954.6	18.199	1769.8	304.3	6338.4	19.436	1779.1	304.3	45
40	5835.9	17.113	1674.6	286.1	6236.6	18.357	1685.4	286.2	6636.6	19.608	1695.6	286.2	40
35	6144.4	17.287	1589.3	266.7	6563.9	18.547	1601.0	266.9	6982.2	19.811	1612.1	266.9	35
30	6509.1	17.506	1504.0	246.0	6950.2	18.782	1516.5	246.2	7389.8	20.061	1528.5	246.3	30
25	6949.9	17.780	1418.6	223.6	7416.5	19.078	1432.1	223.8	7881.0	20.381	1444.8	223.9	25
20	7498.7	18.138	1333.2	198.9	7995.8	19.467	1347.5	199.2	8490.2	20.795	1361.1	199.5	20
15	8211.1	18.637	1247.7	171.2	8746.0	19.998	1262.9	171.7	9277.0	21.362	1277.3	172.0	15
10	9197.1	19.372	1162.1	139.2	9780.2	20.781	1178.1	139.8	10358	22.194	1193.4	140.4	10
5	10726	20.620	1076.1	99.9	11373	22.100	1093.0	100.8	12011	23.580	1109.2	101.7	5
4	11155	20.989	1058.9	90.6	11817	22.488	1076.0	91.6	12469	23.987	1092.3	92.6	4
3	11652	21.430	1041.6	80.5	12329	22.949	1058.9	81.7	12996	24.463	1075.4	82.8	3
2	12243	21.970	1024.3	69.5	12936	23.510	1041.8	70.8	13617	25.045	1058.4	72.1	2
1	12972	22.660	1007.0	57.1	13679	24.220	1024.6	58.7	14372	25.776	1041.4	60.3	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 6/10

건도 %	34 bar a (tsat = 240.90 oC)				36 bar a (tsat = 244.19 oC)				38 bar a (tsat = 247.33 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	4809.4	19.712	2697.1	460.1	5091.3	20.885	2696.8	459.8	5373.6	22.058	2696.3	459.4	100
95	4919.5	19.762	2614.5	448.1	5207.3	20.937	2615.0	447.8	5495.7	22.114	2615.2	447.4	95
90	5037.4	19.812	2531.9	435.9	5331.8	20.990	2533.1	435.6	5626.5	22.174	2534.2	435.1	90
85	5164.4	19.870	2449.3	423.2	5465.7	21.056	2451.3	422.8	5767.3	22.239	2453.2	422.5	85
80	5301.6	19.936	2366.7	410.1	5610.2	21.122	2369.5	409.9	5919.2	22.313	2372.1	409.5	80
75	5450.3	20.007	2284.0	396.6	5767.0	21.197	2287.7	396.4	6083.9	22.392	2291.1	396.1	75
70	5612.5	20.086	2201.4	382.7	5937.8	21.284	2205.8	382.5	6263.3	22.485	2210.0	382.2	70
65	5790.1	20.173	2118.7	368.3	6124.9	21.377	2124.0	368.2	6459.7	22.583	2128.9	367.9	65
60	5986.0	20.272	2036.1	353.4	6331.0	21.487	2042.2	353.2	6676.1	22.698	2047.9	353.0	60
55	6203.4	20.389	1953.4	337.7	6559.8	21.610	1960.3	337.6	6916.0	22.828	1966.8	337.5	55
50	6446.8	20.521	1870.7	321.4	6815.6	21.750	1878.4	321.3	7184.3	22.981	1885.7	321.2	50
45	6721.7	20.675	1788.1	304.3	7104.5	21.913	1796.5	304.2	7486.9	23.158	1804.6	304.1	45
40	7035.8	20.858	1705.3	286.2	7434.3	22.111	1714.6	286.1	7832.1	23.362	1723.4	286.1	40
35	7399.5	21.078	1622.6	266.9	7815.8	22.344	1632.7	267.0	8231.3	23.612	1642.3	267.0	35
30	7828.0	21.343	1539.8	246.4	8264.8	22.629	1550.7	246.5	8700.3	23.918	1561.1	246.5	30
25	8343.5	21.684	1457.0	224.1	8804.3	22.990	1468.6	224.3	9263.2	24.299	1479.8	224.4	25
20	8981.9	22.124	1374.1	199.7	9471.0	23.455	1386.6	200.0	9957.7	24.791	1398.5	200.2	20
15	9804.3	22.725	1291.1	172.4	10328	24.093	1304.4	172.8	10848	25.459	1317.1	173.2	15
10	10930	23.605	1208.0	141.0	11496	25.015	1222.0	141.6	12058	26.428	1235.6	142.1	10
5	12640	25.058	1124.6	102.6	13261	26.532	1139.5	103.6	13874	28.010	1153.8	104.4	5
4	13111	25.481	1107.9	93.6	13744	26.971	1122.9	94.7	14368	28.460	1137.3	95.7	4
3	13651	25.975	1091.1	84.0	14296	27.485	1106.3	85.1	14932	28.989	1120.9	86.3	3
2	14285	26.577	1074.4	73.5	14942	28.100	1089.7	74.8	15587	29.619	1104.4	76.1	2
1	15051	27.320	1057.5	61.8	15717	28.861	1073.0	63.4	16370	30.394	1087.9	64.9	1

건도 %	40 bar a (tsat = 250.36 oC)				42 bar a (tsat = 253.27 oC)				44 bar a (tsat = 256.07 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	5656.4	23.229	2695.5	459.0	5939.8	24.405	2694.7	458.5	6223.7	25.583	2693.8	458.0	100
95	5784.5	23.292	2615.3	447.0	6073.8	24.472	2615.2	446.5	6363.6	25.653	2615.0	446.0	95
90	5921.7	23.356	2535.0	434.8	6217.4	24.539	2535.7	434.3	6513.5	25.723	2536.2	433.9	90
85	6069.3	23.424	2454.8	422.2	6371.7	24.615	2456.2	421.7	6674.6	25.803	2457.4	421.3	85
80	6228.5	23.502	2374.5	409.2	6538.3	24.698	2376.7	408.8	6848.4	25.889	2378.6	408.4	80
75	6401.1	23.590	2294.2	395.8	6718.7	24.790	2297.1	395.4	7036.6	25.986	2299.8	395.1	75
70	6589.1	23.688	2213.9	381.9	6915.1	24.892	2217.6	381.6	7241.4	26.094	2221.0	381.3	70
65	6794.7	23.795	2133.6	367.6	7130.0	25.005	2138.0	367.3	7465.4	26.217	2142.2	367.0	65
60	7021.2	23.917	2053.3	352.7	7366.4	25.133	2058.4	352.5	7711.8	26.357	2063.4	352.1	60
55	7272.2	24.054	1973.0	337.2	7628.5	25.282	1978.9	337.0	7984.7	26.512	1984.5	336.7	55
50	7552.7	24.215	1892.6	321.0	7921.0	25.451	1899.3	320.8	8289.2	26.690	1905.6	320.6	50
45	7869.0	24.401	1812.3	304.0	8250.7	25.646	1819.7	303.9	8632.2	26.899	1826.8	303.6	45
40	8229.5	24.620	1731.9	286.0	8626.3	25.882	1740.0	285.9	9022.6	27.141	1747.9	285.8	40
35	8645.8	24.884	1651.5	267.0	9059.6	26.159	1660.4	266.9	9472.7	27.436	1668.9	266.8	35
30	9134.7	25.206	1571.1	246.6	9567.9	26.497	1580.7	246.6	10000	27.791	1590.0	246.6	30
25	9720.5	25.607	1490.6	224.6	10176	26.917	1500.9	224.7	10630	28.237	1511.0	224.7	25
20	10442	26.129	1410.0	200.4	10924	27.466	1421.1	200.7	11404	28.806	1431.9	200.9	20
15	11365	26.827	1329.4	173.6	11878	28.199	1341.2	173.9	12389	29.574	1352.7	174.3	15
10	12614	27.843	1248.6	142.7	13166	29.255	1261.2	143.3	13713	30.670	1273.4	143.8	10
5	14479	29.479	1167.5	105.4	15077	30.952	1180.9	106.3	15668	32.421	1193.8	107.2	5
4	14984	29.948	1151.3	96.7	15591	31.434	1164.8	97.7	16191	32.915	1177.9	98.7	4
3	15558	30.490	1135.0	87.4	16174	31.988	1148.7	88.5	16783	33.484	1161.9	89.7	3
2	16223	31.134	1118.7	77.4	16848	32.649	1132.5	78.6	17463	34.156	1145.9	79.9	2
1	17012	31.925	1102.4	66.4	17643	33.449	1116.3	67.8	18264	34.961	1129.8	69.3	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 7/10

건도 %	46 bar a (tsat = 258.78 oC)				48 bar a (tsat = 261.40 oC)				50 bar a (tsat = 263.94 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	6508.2	26.763	2692.7	457.4	6793.3	27.944	2691.5	456.8	7079.1	29.126	2690.2	456.2	100
95	6654.1	26.836	2614.6	445.5	6945.1	28.020	2614.1	444.9	7236.7	29.205	2613.5	444.3	95
90	6810.2	26.909	2536.5	433.4	7107.5	28.096	2536.8	432.8	7405.4	29.291	2536.9	432.2	90
85	6978.1	26.993	2458.5	420.8	7282.0	28.190	2459.4	420.3	7586.5	29.382	2460.2	419.8	85
80	7159.0	27.088	2380.4	407.9	7470.1	28.283	2382.0	407.5	7781.7	29.486	2383.5	406.9	80
75	7355.0	27.189	2302.3	394.6	7673.7	28.395	2304.7	394.1	7993.0	29.596	2306.8	393.7	75
70	7568.1	27.302	2224.2	380.9	7895.1	28.512	2227.2	380.5	8222.6	29.724	2230.1	380.0	70
65	7801.1	27.431	2146.1	366.6	8137.1	28.647	2149.8	366.3	8473.5	29.865	2153.4	365.9	65
60	8057.4	27.577	2068.0	351.8	8403.1	28.799	2072.4	351.5	8749.1	30.029	2076.7	351.1	60
55	8341.0	27.740	1989.9	336.5	8697.4	28.975	1995.0	336.1	9054.0	30.206	2000.0	335.8	55
50	8657.4	27.931	1911.7	320.3	9025.5	29.174	1917.6	320.1	9393.6	30.414	1923.2	319.8	50
45	9013.5	28.150	1833.6	303.5	9394.5	29.403	1840.1	303.2	9775.5	30.658	1846.5	303.0	45
40	9418.5	28.408	1755.4	285.6	9814.0	29.672	1762.7	285.5	10209	30.939	1769.7	285.4	40
35	9885.1	28.711	1677.2	266.8	10297	29.994	1685.2	266.7	10708	31.274	1692.9	266.6	35
30	10431	29.087	1598.9	246.6	10861	30.381	1607.6	246.6	11290	31.683	1616.0	246.6	30
25	11083	29.553	1520.6	224.8	11534	30.867	1530.0	225.0	11984	32.190	1539.1	225.0	25
20	11882	30.149	1442.3	201.1	12357	31.489	1452.4	201.3	12831	32.837	1462.2	201.5	20
15	12896	30.946	1363.8	174.6	13401	32.321	1374.6	175.0	13902	33.698	1385.1	175.3	15
10	14256	32.086	1285.2	144.4	14795	33.498	1296.7	145.0	15329	34.918	1307.9	145.5	10
5	16252	33.888	1206.4	108.1	16829	35.356	1218.6	109.0	17400	36.816	1230.4	109.9	5
4	16783	34.394	1190.6	99.7	17368	35.871	1202.9	100.7	17946	37.341	1214.9	101.7	4
3	17383	34.972	1174.7	90.8	17975	36.463	1187.2	91.9	18559	37.946	1199.4	93.0	3
2	18070	35.657	1158.9	81.2	18668	37.155	1171.5	82.5	19257	38.647	1183.8	83.7	2
1	18874	36.477	1143.0	70.8	19475	37.981	1155.7	72.2	20067	39.478	1168.2	73.7	1

건도 %	55 bar a (tsat = 269.97 oC)				60 bar a (tsat = 275.59 oC)				65 bar a (tsat = 280.86 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	7796.6	32.085	2686.4	454.5	8518.8	35.060	2682.2	452.6	9245.9	38.044	2677.4	450.5	100
95	7968.7	32.172	2611.5	442.8	8705.2	35.155	2608.8	440.9	9446.5	38.148	2605.6	439.0	95
90	8152.8	32.273	2536.5	430.6	8904.4	35.265	2535.5	428.9	9660.8	38.267	2533.9	427.1	90
85	8350.3	32.374	2461.5	418.3	9118.2	35.382	2462.1	416.6	9890.5	38.401	2462.1	414.8	85
80	8563.1	32.495	2386.5	405.5	9348.3	35.514	2388.8	403.9	10138	38.544	2390.4	402.3	80
75	8793.2	32.622	2311.6	392.3	9596.9	35.653	2315.4	390.9	10404	38.695	2318.6	389.4	75
70	9043.1	32.763	2236.5	378.8	9866.7	35.814	2242.1	377.4	10694	38.870	2246.8	376.0	70
65	9315.9	32.924	2161.5	364.7	10161	35.990	2168.7	363.4	11009	39.068	2175.1	362.1	65
60	9615.3	33.099	2086.5	350.1	10484	36.188	2095.3	349.0	11354	39.282	2103.3	347.8	60
55	9946.1	33.300	2011.5	334.9	10840	36.415	2022.0	333.9	11735	39.528	2031.5	332.9	55
50	10314	33.535	1936.4	319.0	11235	36.671	1948.5	318.1	12157	39.814	1959.7	317.2	50
45	10727	33.804	1861.4	302.4	11679	36.964	1875.1	301.7	12630	40.139	1887.8	300.9	45
40	11196	34.119	1786.3	284.9	12181	37.308	1801.6	284.3	13164	40.512	1816.0	283.7	40
35	11733	34.489	1711.1	266.3	12755	37.719	1728.2	266.0	13775	40.956	1744.1	265.6	35
30	12359	34.938	1636.0	246.5	13423	38.209	1654.6	246.4	14482	41.488	1672.2	246.2	30
25	13103	35.496	1560.8	225.2	14214	38.817	1581.1	225.3	15317	42.147	1600.2	225.4	25
20	14007	36.207	1485.5	201.9	15171	39.586	1507.4	202.4	16325	42.964	1528.1	202.9	20
15	15144	37.141	1410.1	176.2	16370	40.590	1433.7	177.1	17579	44.043	1456.0	177.9	15
10	16647	38.450	1334.6	146.9	17941	41.989	1359.8	148.3	19212	45.519	1383.7	149.8	10
5	18800	40.464	1258.9	112.2	20164	44.098	1285.7	114.5	21494	47.717	1311.2	116.7	5
4	19361	41.014	1243.7	104.2	20737	44.669	1270.9	106.7	22076	48.304	1296.7	109.3	4
3	19987	41.639	1228.5	95.8	21373	45.314	1256.0	98.6	22719	48.962	1282.2	101.4	3
2	20695	42.364	1213.2	86.9	22087	46.046	1241.1	90.0	23435	49.708	1267.6	93.1	2
1	21508	43.210	1198.0	77.2	22899	46.903	1226.2	80.8	24244	50.573	1253.0	84.3	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 8/10

건도 %	70 bar a (tsat = 285.83 oC)				75 bar a (tsat = 290.54 oC)				80 bar a (tsat = 295.01 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	9978.4	41.030	2672.0	448.4	10717	44.034	2666.3	446.1	11461	47.057	2660.2	443.6	100
95	10193	41.150	2601.9	436.9	10945	44.171	2597.7	434.6	11703	47.194	2593.1	432.3	95
90	10422	41.287	2531.7	425.0	11189	44.308	2529.1	423.0	11961	47.350	2526.0	420.7	90
85	10668	41.423	2461.5	413.0	11450	44.464	2460.4	411.0	12237	47.516	2458.8	408.8	85
80	10931	41.586	2391.4	400.5	11730	44.638	2391.8	398.6	12534	47.701	2391.7	396.6	80
75	11216	41.757	2321.2	387.6	12032	44.821	2323.1	385.9	12853	47.907	2324.5	384.0	75
70	11525	41.945	2250.9	374.4	12360	45.032	2254.4	372.7	13199	48.131	2257.3	371.0	70
65	11860	42.158	2180.7	360.7	12715	45.261	2185.7	359.2	13575	48.375	2190.2	357.6	65
60	12228	42.397	2110.5	346.4	13105	45.517	2117.0	345.1	13985	48.658	2123.0	343.6	60
55	12632	42.662	2040.3	331.7	13532	45.810	2048.3	330.4	14435	48.961	2055.7	329.2	55
50	13081	42.970	1970.0	316.2	14006	46.140	1979.6	315.2	14933	49.323	1988.5	314.0	50
45	13582	43.320	1899.7	300.1	14534	46.515	1910.8	299.2	15488	49.723	1921.3	298.3	45
40	14147	43.730	1829.4	283.1	15130	46.954	1842.1	282.4	16111	50.192	1854.0	281.7	40
35	14792	44.209	1759.1	265.1	15807	47.467	1773.3	264.7	16820	50.739	1786.7	264.2	35
30	15537	44.782	1688.7	246.0	16588	48.080	1704.4	245.8	17635	51.393	1719.4	245.6	30
25	16414	45.482	1618.3	225.5	17504	48.831	1635.5	225.6	18588	52.184	1652.0	225.7	25
20	17468	46.362	1547.8	203.3	18601	49.756	1566.6	203.7	19725	53.160	1584.5	204.2	20
15	18774	47.499	1477.2	178.8	19954	50.955	1497.5	179.7	21119	54.410	1517.0	180.6	15
10	20460	49.045	1406.5	151.2	21688	52.576	1428.4	152.7	22895	56.090	1449.4	154.1	10
5	22792	51.327	1335.6	119.0	24058	54.919	1359.0	121.3	25296	58.492	1381.5	123.6	5
4	23380	51.925	1321.4	111.8	24651	55.524	1345.1	114.3	25891	59.108	1367.9	116.9	4
3	24027	52.592	1307.2	104.2	25299	56.201	1331.2	107.0	26538	59.791	1354.3	109.8	3
2	24743	53.352	1292.9	96.2	26013	56.961	1317.2	99.3	27248	60.553	1340.7	102.3	2
1	25546	54.207	1278.6	87.7	26808	57.822	1303.3	91.1	28033	61.403	1327.0	94.5	1

건도 %	85 bar a (tsat = 299.27 oC)				90 bar a (tsat = 303.35 oC)				95 bar a (tsat = 307.25 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	12212	50.081	2653.7	441.0	12970	53.125	2646.8	438.3	13735	56.169	2639.5	435.6	100
95	12468	50.236	2588.1	429.8	13239	53.290	2582.6	427.3	14017	56.354	2576.8	424.6	95
90	12740	50.402	2522.4	418.4	13525	53.466	2518.5	415.9	14317	56.540	2514.1	413.4	90
85	13031	50.579	2456.7	406.6	13831	53.663	2454.3	404.3	14638	56.749	2451.4	401.9	85
80	13344	50.776	2391.1	394.5	14159	53.872	2390.1	392.3	14981	56.981	2388.7	390.0	80
75	13680	50.994	2325.4	382.1	14512	54.103	2325.9	380.0	15350	57.224	2325.9	377.9	75
70	14043	51.243	2259.7	369.1	14893	54.366	2261.7	367.2	15748	57.502	2263.2	365.3	70
65	14438	51.502	2194.0	355.9	15306	54.641	2197.4	354.2	16179	57.804	2200.4	352.3	65
60	14868	51.803	2128.3	342.1	15756	54.960	2133.2	340.5	16649	58.140	2137.6	338.8	60
55	15341	52.135	2062.6	327.8	16250	55.322	2069.0	326.3	17163	58.511	2074.8	324.9	55
50	15862	52.509	1996.9	312.9	16794	55.718	2004.7	311.7	17728	58.940	2012.0	310.4	50
45	16442	52.944	1931.1	297.3	17398	56.179	1940.4	296.3	18356	59.416	1949.2	295.2	45
40	17093	53.442	1865.3	280.9	18075	56.707	1876.1	280.1	19058	59.973	1886.4	279.3	40
35	17831	54.023	1799.5	263.7	18841	57.322	1811.8	263.1	19850	60.622	1823.5	262.6	35
30	18678	54.708	1733.7	245.4	19718	58.047	1747.4	245.1	20755	61.376	1760.6	244.8	30
25	19666	55.549	1667.8	225.7	20737	58.915	1683.0	225.8	21803	62.292	1697.6	225.9	25
20	20839	56.566	1601.8	204.6	21944	59.980	1618.5	205.1	23040	63.405	1634.6	205.5	20
15	22271	57.873	1535.8	181.5	23409	61.332	1553.9	182.4	24534	64.797	1571.5	183.3	15
10	24083	59.606	1469.6	155.6	25250	63.112	1489.2	157.2	26399	66.617	1508.3	158.7	10
5	26505	62.054	1403.3	126.0	27687	65.594	1424.4	128.3	28843	69.122	1444.9	130.7	5
4	27100	62.677	1390.0	119.4	28280	66.221	1411.4	122.0	29433	69.749	1432.2	124.6	4
3	27745	63.362	1376.7	112.5	28921	66.902	1398.4	115.4	30068	70.433	1419.5	118.2	3
2	28449	64.119	1363.4	105.4	29617	67.660	1385.4	108.5	30754	71.187	1406.8	111.5	2
1	29222	64.960	1350.0	97.9	30378	68.495	1372.3	101.3	31501	72.010	1394.0	104.6	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 9/10

건도 %	100 bar a (tsat = 311.00 oC)				110 bar a (tsat = 318.08 oC)				120 bar a (tsat = 324.68 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	14509	59.235	2631.8	432.7	16081	65.413	2615.4	426.6	17691	71.637	2597.3	420.1	100
95	14803	59.430	2570.6	421.9	16400	65.627	2557.0	416.0	18035	71.886	2541.9	409.8	95
90	15117	59.625	2509.3	410.8	16740	65.856	2498.7	405.2	18399	72.135	2486.4	399.3	90
85	15451	59.857	2448.1	399.4	17102	66.097	2440.3	394.2	18787	72.413	2431.0	388.5	85
80	15809	60.089	2386.8	387.7	17488	66.366	2381.9	382.8	19201	72.706	2375.5	377.4	80
75	16194	60.358	2325.5	375.7	17903	66.661	2323.5	371.0	19643	73.029	2320.0	366.1	75
70	16609	60.651	2264.2	363.2	18349	66.984	2265.1	359.0	20119	73.395	2264.5	354.3	70
65	17057	60.968	2202.9	350.4	18832	67.346	2206.7	346.5	20632	73.776	2209.0	342.3	65
60	17546	61.322	2141.6	337.2	19355	67.736	2148.3	333.6	21187	74.215	2153.5	329.8	60
55	18079	61.725	2080.3	323.4	19925	68.179	2089.9	320.2	21791	74.698	2098.0	316.8	55
50	18666	62.164	2018.9	309.1	20551	68.676	2031.4	306.3	22451	75.226	2042.4	303.4	50
45	19316	62.677	1957.5	294.1	21241	69.226	1972.9	291.9	23177	75.826	1986.9	289.4	45
40	20041	63.263	1896.1	278.5	22009	69.857	1914.4	276.7	23982	76.515	1931.3	274.8	40
35	20858	63.934	1834.7	262.0	22870	70.596	1855.9	260.8	24880	77.291	1875.6	259.5	35
30	21788	64.728	1773.3	244.5	23846	71.442	1797.4	244.0	25893	78.199	1820.0	243.3	30
25	22864	65.668	1711.7	226.0	24967	72.449	1738.7	226.1	27049	79.254	1764.3	226.3	25
20	24127	66.815	1650.2	206.0	26274	73.671	1680.1	206.9	28386	80.529	1708.6	208.0	20
15	25646	68.256	1588.5	184.2	27831	75.175	1621.4	186.2	29963	82.081	1652.7	188.2	15
10	27529	70.111	1526.8	160.2	29735	77.081	1562.5	163.4	31868	84.015	1596.9	166.7	10
5	29973	72.638	1464.9	133.1	32158	79.619	1503.6	137.9	34248	86.534	1540.8	142.9	5
4	30558	73.261	1452.5	127.1	32730	80.237	1491.8	132.4	34801	87.135	1529.6	137.7	4
3	31186	73.944	1440.1	121.0	33339	80.895	1479.9	126.7	35387	87.780	1518.4	132.4	3
2	31861	74.677	1427.7	114.6	33990	81.620	1468.1	120.7	36009	88.468	1507.2	127.0	2
1	32593	75.494	1415.2	107.9	34689	82.399	1456.3	114.6	36671	89.200	1495.9	121.4	1

건도 %	130 bar a (tsat = 330.86 oC)				140 bar a (tsat = 336.67 oC)				150 bar a (tsat = 342.16 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	19346	77.939	2577.6	413.1	21052	84.310	2555.9	405.5	22820	90.771	2532.0	397.3	100
95	19712	78.209	2525.1	403.1	21439	84.601	2506.4	395.8	23226	91.083	2485.6	388.0	95
90	20100	78.479	2472.6	392.9	21849	84.908	2456.9	386.0	23655	91.412	2439.1	378.6	90
85	20512	78.781	2420.0	382.5	22283	85.233	2407.3	376.0	24109	91.779	2392.7	368.9	85
80	20950	79.114	2367.5	371.7	22745	85.592	2357.8	365.6	24591	92.145	2346.3	359.1	80
75	21419	79.463	2314.9	360.8	23237	85.968	2308.3	355.1	25103	92.566	2299.8	348.9	75
70	21922	79.860	2262.4	349.4	23763	86.395	2258.7	344.1	25650	93.005	2253.4	338.5	70
65	22463	80.272	2209.8	337.8	24328	86.857	2209.2	332.9	26235	93.500	2206.9	327.7	65
60	23046	80.748	2157.3	325.7	24937	87.352	2159.6	321.3	26864	94.031	2160.4	316.7	60
55	23679	81.256	2104.7	313.3	25595	87.899	2110.0	309.4	27541	94.598	2113.9	305.3	55
50	24370	81.843	2052.1	300.3	26309	88.514	2060.4	297.0	28274	95.239	2067.4	293.5	50
45	25126	82.478	1999.4	286.9	27090	89.181	2010.7	284.2	29072	95.953	2020.9	281.3	45
40	25961	83.208	1946.8	272.8	27947	89.950	1961.1	270.8	29944	96.741	1974.4	268.6	40
35	26888	84.033	1894.1	258.2	28896	90.822	1911.4	256.7	30903	97.638	1927.8	255.3	35
30	27929	84.985	1841.4	242.7	29954	91.796	1861.7	242.1	31967	98.645	1881.2	241.4	30
25	29108	86.096	1788.7	226.4	31145	92.941	1812.0	226.6	33157	99.799	1834.6	226.9	25
20	30462	87.397	1735.9	209.0	32502	94.257	1762.2	210.2	34500	101.14	1787.9	211.5	20
15	32043	88.969	1683.0	190.4	34069	95.846	1712.4	192.7	36037	102.69	1741.2	195.2	15
10	33928	90.905	1630.1	170.2	35915	97.760	1662.5	173.8	37822	104.56	1694.4	177.7	10
5	36242	93.380	1577.0	147.9	38141	100.15	1612.5	153.2	39940	106.85	1647.6	158.7	5
4	36773	93.951	1566.4	143.2	38645	100.70	1602.5	148.8	40414	107.36	1638.2	154.7	4
3	37332	94.570	1555.8	138.3	39173	101.28	1592.5	144.4	40907	107.91	1628.8	150.6	3
2	37921	95.221	1545.1	133.3	39727	101.90	1582.5	139.8	41422	108.48	1619.4	146.4	2
1	38545	95.919	1534.5	128.2	40309	102.56	1572.4	135.1	41959	109.08	1610.0	142.2	1

단위: WperA (kg/s/m<sup>2</sup>) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.

표 ESStb-S15, 노즐 질식 유동 상태 (입구 포화 압력 및 건도 기준) - 10/10

건도 %	160 bar a (tsat = 347.36 oC)				180 bar a (tsat = 356.99 oC)				200 bar a (tsat = 365.75 oC)				건도 %
	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	WperA	Pc	Hc	Velc	
100	24663	97.350	2505.4	388.2	28652	110.86	2442.0	367.4	33355	125.20	2353.7	339.7	100
95	25085	97.682	2462.3	379.4	29095	111.23	2406.0	359.6	33788	125.59	2326.6	333.4	95
90	25531	98.033	2419.1	370.4	29561	111.61	2369.9	351.8	34239	125.98	2299.5	327.0	90
85	26001	98.405	2375.9	361.3	30051	112.02	2333.8	343.7	34708	126.40	2272.4	320.6	85
80	26500	98.815	2332.7	351.8	30566	112.46	2297.8	335.4	35199	126.86	2245.3	313.9	80
75	27028	99.244	2289.5	342.2	31109	112.95	2261.7	327.0	35711	127.33	2218.1	307.2	75
70	27591	99.713	2246.2	332.3	31684	113.45	2225.6	318.3	36247	127.81	2191.0	300.4	70
65	28191	100.22	2203.0	322.2	32292	114.00	2189.5	309.5	36809	128.33	2163.8	293.4	65
60	28834	100.79	2159.8	311.7	32939	114.57	2153.4	300.4	37400	128.89	2136.7	286.3	60
55	29524	101.39	2116.5	300.9	33627	115.21	2117.3	291.1	38021	129.47	2109.5	279.0	55
50	30268	102.06	2073.3	289.7	34363	115.89	2081.2	281.5	38675	130.11	2082.4	271.5	50
45	31074	102.78	2030.0	278.2	35151	116.64	2045.0	271.6	39366	130.79	2055.2	263.9	45
40	31951	103.60	1986.7	266.2	35999	117.45	2008.9	261.4	40098	131.50	2028.0	256.1	40
35	32910	104.50	1943.4	253.8	36915	118.33	1972.7	250.8	40874	132.28	2000.8	248.0	35
30	33967	105.51	1900.0	240.8	37909	119.32	1936.5	239.9	41700	133.11	1973.6	239.8	30
25	35140	106.67	1856.6	227.3	38993	120.39	1900.3	228.6	42582	133.99	1946.4	231.3	25
20	36454	107.97	1813.2	213.0	40184	121.60	1864.0	216.7	43527	134.97	1919.2	222.6	20
15	37940	109.50	1769.8	197.9	41500	122.99	1827.8	204.3	44542	136.02	1891.9	213.5	15
10	39644	111.30	1726.3	181.8	42969	124.53	1791.5	191.3	45638	137.19	1864.7	204.1	10
5	41630	113.44	1682.7	164.5	44623	126.33	1755.1	177.5	46828	138.46	1837.4	194.4	5
4	42070	113.93	1674.0	160.8	44980	126.70	1747.9	174.7	47078	138.73	1832.0	192.5	4
3	42525	114.44	1665.3	157.1	45346	127.12	1740.6	171.8	47333	139.00	1826.5	190.5	3
2	42997	114.95	1656.5	153.4	45723	127.54	1733.3	168.8	47592	139.29	1821.0	188.4	2
1	43488	115.49	1647.8	149.6	46111	127.95	1726.0	165.9	47856	139.56	1815.6	186.4	1

건도 %	220 bar a (tsat = 373.71 oC)				건도 %
	WperA	Pc	Hc	Velc	
100	41874	143.39	2126.7	273.7	100
95	42049	143.55	2120.1	271.9	95
90	42227	143.74	2113.5	270.0	90
85	42407	143.90	2106.9	268.2	85
80	42589	144.09	2100.3	266.4	80
75	42774	144.27	2093.6	264.5	75
70	42961	144.46	2087.0	262.6	70
65	43151	144.65	2080.4	260.7	65
60	43344	144.84	2073.8	258.8	60
55	43540	145.03	2067.2	256.9	55
50	43738	145.24	2060.5	255.0	50
45	43939	145.43	2053.9	253.1	45
40	44143	145.64	2047.3	251.1	40
35	44350	145.86	2040.7	249.1	35
30	44561	146.05	2034.0	247.2	30
25	44774	146.26	2027.4	245.2	25
20	44991	146.50	2020.8	243.2	20
15	45211	146.72	2014.2	241.2	15
10	45435	146.96	2007.6	239.1	10
5	45662	147.17	2000.9	237.1	5
4	45708	147.23	1999.6	236.7	4
3	45754	147.28	1998.3	236.3	3
2	45800	147.31	1996.9	235.9	2
1	45846	147.36	1995.6	235.5	1

단위: WperA (kg/s/m2) ; Pc (bar a) ; Hc (kJ/kg) ; Velc (m/s)

주1 : 표 상단의 노즐 입구 포화 압력과 좌우측의 노즐 입구 건도는 유속이 0 인 정지 상태 기준입니다.

주2 : WperA, Pc, Hc 및 Velc는 노즐 목(Throat)에서의 상태입니다.

주3 : 표 ESStb-S15 전체 상태는 습증기 상태로 질식 유속(Velc)이 음속과 같지 않습니다.