

# NOZZLE THRUST (THEORETICAL) lb·f — WATER

psi	1 gpm	2 gpm	3 gpm	4 gpm	5 gpm	6 gpm	7 gpm	8 gpm	9 gpm	10 gpm	11 gpm	12 gpm	13 gpm	14 gpm	15 gpm	16 gpm	17 gpm	18 gpm	19 gpm	20 gpm	21 gpm	22 gpm	23 gpm
1,000	1.7	3.3	5.0	6.7	8.3	10.0	11.7	13.3	15.0	16.7	18.3	20.0	21.7	23.3	25.8	26.7	28.3	30.0	31.7	33.3	35.0	36.7	38.3
2,000	2.4	4.7	7.1	9.4	11.8	14.1	16.5	18.9	21.2	23.6	25.9	28.3	30.6	33.0	35.4	37.7	40.1	42.4	44.8	47.1	49.5	51.8	54.2
3,000	2.9	5.8	8.7	11.5	14.4	17.3	20.2	23.1	26.0	28.9	31.8	34.6	37.5	40.4	40.3	46.2	49.1	52.0	54.8	57.7	60.6	63.5	66.4
4,000	3.3	6.7	10.0	13.3	16.7	20.0	23.3	26.7	30.0	33.3	36.7	40.0	43.3	46.7	50.0	53.3	56.7	60.0	63.3	66.7	70.0	73.3	76.7
5,000	3.7	7.5	11.2	14.9	18.6	22.4	26.1	29.8	33.5	37.3	41.0	44.7	48.4	52.2	55.9	59.6	63.3	67.1	70.8	74.5	78.3	82.0	85.7
6,000	4.1	8.2	12.2	16.3	20.4	24.5	28.6	32.7	36.7	40.8	44.9	49.0	53.1	57.1	61.2	65.3	69.4	73.5	77.6	81.6	85.7	89.8	93.9
7,000	4.4	8.8	13.2	17.6	22.0	26.5	30.9	35.3	39.7	44.1	48.5	52.9	57.3	61.7	66.1	70.5	75.0	79.4	83.8	88.2	92.6	97.0	101.4
8,000	4.7	9.4	14.1	18.9	23.6	28.3	33.0	37.7	42.4	47.1	51.8	56.6	61.3	66.0	70.7	75.4	80.1	84.8	89.6	94.3	99.0	103.7	108.4
9,000	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0
10,000	5.3	10.5	15.8	21.1	26.3	31.6	36.9	42.2	47.4	52.7	58.0	63.2	68.5	73.8	79.0	84.3	89.6	94.9	100.1	105.4	110.7	115.9	121.2
11,000	5.5	11.1	16.6	22.1	27.6	33.2	38.7	44.2	49.7	55.3	60.8	66.3	71.9	77.4	82.9	88.4	94.0	99.5	105.0	110.5	116.1	121.6	127.1
12,000	5.8	11.5	17.3	23.1	28.9	34.6	40.4	46.2	52.0	57.7	63.5	69.3	75.0	80.8	86.6	92.4	98.1	103.9	109.7	115.5	121.2	127.0	132.8
13,000	6.0	12.0	18.0	24.0	30.0	36.1	42.1	48.1	54.1	60.1	66.1	72.1	78.1	84.1	90.1	96.1	102.1	108.2	114.2	120.2	126.2	132.2	138.2
14,000	6.2	12.5	18.7	24.9	31.2	37.4	43.6	49.9	56.1	62.4	68.6	74.8	81.1	87.3	93.5	99.8	106.0	112.2	118.5	124.7	130.9	137.2	143.4
15,000	6.5	12.9	19.4	25.8	32.3	38.7	45.2	51.6	58.1	64.5	71.0	77.5	83.9	90.4	96.8	103.3	109.7	116.2	122.6	129.1	135.5	142.0	148.4
16,000	6.7	13.3	20.0	26.7	33.3	40.0	46.7	53.3	60.0	66.7	73.3	80.0	86.7	93.3	100.0	106.7	113.3	120.0	126.7	133.3	140.0	146.6	153.3
17,000	6.9	13.7	20.6	27.5	34.4	41.2	48.1	55.0	61.8	68.7	75.6	82.5	89.3	96.2	103.1	109.9	116.8	123.7	130.5	137.4	144.3	151.2	158.0
18,000	7.1	14.1	21.2	28.3	35.4	42.4	49.5	56.6	63.6	70.7	77.8	84.8	91.9	99.0	106.1	113.1	120.2	127.3	134.3	141.4	148.5	155.5	162.6
19,000	7.3	14.5	21.8	29.1	36.3	43.6	50.8	58.1	65.4	72.6	79.9	87.2	94.4	101.7	109.0	116.2	123.5	130.8	138.0	145.3	152.5	159.8	167.1
20,000	7.5	14.9	22.4	29.8	37.3	44.7	52.2	59.6	67.1	74.5	82.0	89.4	96.0	104.3	111.8	119.2	126.7	134.1	141.6	149.1	156.5	164.0	171.4
36,000	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	180.0	190.0	200.0	210.0	220.0	230.0
40,000	10.5	21.1	31.6	42.2	52.7	63.2	73.8	84.3	94.9	105.4	115.9	126.5	137.0	147.6	158.1	168.6	179.2	189.7	200.3	210.8	221.3	231.9	242.4

psi	24 gpm	25 gpm	26 gpm	27 gpm	28 gpm	29 gpm	30 gpm	31 gpm	32 gpm	33 gpm	34 gpm	35 gpm	36 gpm	37 gpm	38 gpm	39 gpm	40 gpm	41 gpm	42 gpm	43 gpm	44 gpm	45 gpm
1,000	40.0	41.7	43.3	45.0	46.7	48.3	50.0	51.7	53.3	55.0	56.7	58.3	60.0	61.7	63.3	65.0	66.7	68.3	70.0	71.7	73.3	75.0
2,000	56.6	58.9	61.3	63.6	66.0	68.3	70.7	73.1	75.4	77.8	80.1	82.5	84.8	87.2	89.6	91.9	94.3	96.6	99.0	101.3	103.7	106.1
3,000	69.3	72.2	75.0	77.9	80.8	83.7	86.6	89.5	92.4	95.3	98.1	101.0	103.9	106.8	109.7	112.6	115.5	118.3	121.2	124.1	127.0	129.9
4,000	80.0	83.3	86.7	90.0	93.3	96.7	100.0	103.3	106.7	110.0	113.3	116.7	120.0	123.3	126.7	130.0	133.3	136.6	140.0	143.3	146.6	150.0
5,000	89.4	93.2	96.9	100.6	104.3	108.1	111.8	115.5	119.2	123.0	126.7	130.4	134.1	137.9	141.6	145.3	149.1	152.8	156.5	160.2	164.0	167.7
6,000	98.0	102.0	106.1	110.2	114.3	118.4	122.5	126.5	130.6	134.7	138.8	142.9	147.0	151.0	155.1	159.2	163.3	167.4	171.4	175.5	179.6	183.7
7,000	105.8	110.2	114.6	119.0	123.5	127.9	132.3	136.7	141.1	145.5	149.9	154.3	158.7	163.1	167.5	172.0	176.4	180.8	185.2	189.6	194.0	198.4
8,000	113.1	117.8	122.5	127.3	132.0	136.7	141.4	146.1	150.8	155.5	160.3	165.0	169.7	174.4	179.1	183.8	188.5	193.3	198.0	202.7	207.4	212.1
9,000	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0	200.0	205.0	210.0	215.0	220.0	225.0
10,000	126.5	131.7	137.0	142.3	147.6	152.8	158.1	163.4	168.6	173.9	179.2	184.4	189.7	195.0	200.3	205.5	210.8	216.1	221.3	226.6	231.9	237.1
11,000	132.6	138.2	143.7	149.2	154.8	160.3	165.8	171.3	176.9	182.4	187.9	193.4	199.0	204.5	210.0	215.6	221.1	226.6	232.1	237.7	243.2	248.7
12,000	138.5	144.3	150.1	155.9	161.6	167.4	173.2	179.0	184.7	190.5	196.3	202.0	207.8	213.6	219.4	225.1	230.9	236.7	242.5	248.2	254.0	259.8
13,000	144.2	150.2	156.2	162.2	168.2	174.2	180.3	186.3	192.3	198.3	204.3	210.3	216.3	222.3	228.3	234.3	240.3	246.3	252.4	258.4	264.4	270.4
14,000	149.6	155.9	162.1	168.4	174.6	180.8	187.1	193.3	199.5	205.8	212.0	218.2	224.5	230.7	236.9	243.2	249.4	255.6	261.9	268.1	274.4	280.6
15,000	154.9	161.4	167.8	174.3	180.7	187.2	193.6	200.1	206.5	213.0	219.4	225.9	232.4	238.8	245.3	251.7	258.2	264.6	271.1	277.5	284.0	290.4
16,000	160.0	166.6	173.3	180.0	186.6	193.3	200.0	206.6	213.3	220.0	226.6	233.3	240.0	246.6	253.3	260.0	266.6	273.3	280.0	286.6	293.3	300.0
17,000	164.9	171.8	178.6	185.5	192.4	199.3	206.1	213.0	219.9	226.7	233.6	240.5	247.4	254.2	261.1	268.0	274.8	281.7	288.6	295.5	302.3	309.2
18,000	169.7	176.8	183.8	190.9	198.0	205.0	212.1	219.2	226.2	233.3	240.4	247.5	254.5	261.6	268.7	275.7	282.8	289.9	296.9	304.0	311.1	318.2
19,000	174.3	181.6	188.9	196.1	203.4	210.7	217.9	225.2	232.4	239.7	247.0	254.2	261.5	268.8	276.0	283.3	290.6	297.8	305.1	312.3	319.6	326.9
20,000	178.9	186.0	193.8	201.2	208.7	216.1	223.6	231.0	238.5	245.9	253.4	260.8	268.3	275.7	283.2	290.7	298.1	305.6	313.0	320.5	327.9	335.4
36,000	240.0	250.0	260.0	270.0	280.0	290.0	300.0	310.0	320.0	330.0	340.0	350.0	360.0	370.0	380.0	390.0	400.0	410.0	420.0	430.0	440.0	450.0
40,000	253.0	263.5	274.0	284.6	295.1	305.7	316.2	326.7	337.3	347.8	358.4	368.9	379.4	389.9	400.5	411.1	421.6	432.1	442.7	453.2	463.8	474.3