

Nozzle Thrust (Theoretical) N — Water

bar	1 lpm	2 lpm	3 lpm	4 lpm	5 lpm	6 lpm	7 lpm	8 lpm	9 lpm	10 lpm	11 lpm	12 lpm	13 lpm	14 lpm	15 lpm	16 lpm	17 lpm	18 lpm	19 lpm	20 lpm	21 lpm	22 lpm	23 lpm
70	1.97	3.94	5.92	7.89	9.86	11.83	13.80	15.78	17.75	19.72	21.69	23.66	25.64	27.61	29.58	31.55	33.52	35.50	37.47	39.44	41.41	43.38	45.36
140	2.89	5.77	8.66	11.55	14.43	17.32	20.21	23.09	25.98	28.87	31.75	34.64	37.53	40.41	43.30	46.19	49.07	51.96	54.85	57.73	60.62	63.51	66.39
210	3.57	7.15	10.72	14.30	17.87	21.45	25.02	28.60	32.17	35.75	39.32	42.89	46.47	50.04	53.62	57.19	60.77	64.34	67.92	71.49	75.07	78.64	82.22
275	4.01	8.03	12.04	16.06	20.07	24.08	28.10	32.11	36.12	40.14	44.15	48.17	52.18	56.19	60.21	64.22	68.24	72.25	76.26	80.28	84.29	88.30	92.32
345	4.41	8.82	13.23	17.64	22.05	26.46	30.87	35.28	39.69	44.10	48.50	52.91	57.32	61.73	66.14	70.55	74.96	79.37	83.78	88.19	92.60	97.01	101.42
415	4.83	9.66	14.49	19.32	24.15	28.98	33.81	38.64	43.47	48.30	53.13	57.96	62.80	67.63	72.46	77.29	82.12	86.95	91.78	96.61	101.44	106.27	111.10
490	5.16	10.33	15.49	20.66	25.82	30.98	36.15	41.31	46.48	51.64	56.80	61.97	67.13	72.29	77.46	82.62	87.79	92.95	98.11	103.28	108.44	113.61	118.77
550	5.53	11.06	16.58	22.11	27.64	33.17	38.69	44.22	49.75	55.28	60.80	66.33	71.86	77.39	82.91	88.44	93.97	99.50	105.03	110.55	116.08	121.61	127.14
630	5.87	11.74	17.61	23.48	29.34	35.21	41.08	46.95	52.82	58.69	64.56	70.43	76.30	82.16	88.03	93.90	99.77	105.64	111.51	117.38	123.25	129.12	134.98
700	6.24	12.47	18.71	24.94	31.18	37.42	43.65	49.89	56.12	62.36	68.60	74.83	81.07	87.30	93.54	99.78	106.01	112.25	118.48	124.72	130.96	137.19	143.43
770	6.50	13.00	19.49	25.99	32.49	38.99	45.48	51.98	58.48	64.98	71.48	77.97	84.47	90.97	97.47	103.96	110.46	116.96	123.46	129.96	136.45	142.95	149.45
840	6.79	13.58	20.37	27.16	33.95	40.74	47.53	54.32	61.11	67.90	74.69	81.49	88.28	95.07	101.86	108.65	115.44	122.23	129.02	135.81	142.60	149.39	156.18
900	7.07	14.14	21.21	28.28	35.36	42.43	49.50	56.57	63.64	70.71	77.78	84.85	91.92	98.99	106.07	113.14	120.21	127.28	134.35	141.42	148.49	155.56	162.63
980	7.36	14.72	22.08	29.44	36.80	44.16	51.52	58.88	66.24	73.60	80.96	88.32	95.68	103.04	110.40	117.76	125.12	132.48	139.83	147.19	154.55	161.91	169.27
1,035	7.64	15.28	22.91	30.55	38.19	45.83	53.46	61.10	68.74	76.38	84.01	91.65	99.29	106.93	114.56	122.20	129.84	137.48	145.11	152.75	160.39	168.03	175.66
1,120	7.85	15.71	23.56	31.41	39.26	47.12	54.97	62.82	70.67	78.53	86.38	94.23	102.09	109.94	117.79	125.64	133.50	141.35	149.20	157.05	164.91	172.76	180.61
1,190	8.10	16.19	24.29	32.39	40.48	48.58	56.68	64.77	72.87	80.97	89.06	97.16	105.26	113.35	121.45	129.54	137.64	145.74	153.83	161.93	170.03	178.12	186.22
1,260	8.33	16.67	25.00	33.33	41.67	50.00	58.33	66.67	75.00	83.33	91.67	100.00	108.33	116.67	125.00	133.33	141.67	150.00	158.33	166.67	175.00	183.33	191.66
1,330	8.56	17.13	25.69	34.25	42.82	51.38	59.94	68.51	77.07	85.63	94.20	102.76	111.32	119.89	128.45	137.01	145.58	154.14	162.70	171.27	179.83	188.39	196.96
1,400	8.82	17.64	26.46	35.28	44.10	52.91	61.73	70.55	79.37	88.19	97.01	105.83	114.65	123.47	132.29	141.11	149.92	158.74	167.56	176.38	185.20	194.02	202.84
2,500	11.79	23.57	35.36	47.14	58.93	70.71	82.50	94.28	106.07	117.85	129.64	141.42	153.21	164.99	176.78	188.56	200.35	212.13	223.92	235.70	247.49	259.27	271.06
2,800	12.47	24.94	37.42	49.89	62.36	74.83	87.30	99.78	112.25	124.72	137.19	149.66	162.14	174.61	187.08	199.55	212.03	224.50	236.97	249.44	261.91	274.39	286.86

bar	24 lpm	25 lpm	26 lpm	27 lpm	28 lpm	29 lpm	30 lpm	31 lpm	32 lpm	33 lpm	34 lpm	35 lpm	36 lpm	37 lpm	38 lpm	39 lpm	40 lpm	41 lpm	42 lpm	43 lpm	44 lpm	45 lpm
70	47.33	49.30	51.27	53.24	55.22	57.19	59.16	61.13	63.10	65.08	67.05	69.02	70.99	72.96	74.94	76.91	78.88	80.85	82.82	84.80	86.77	88.74
140	69.28	72.17	75.05	77.94	80.83	83.71	86.60	89.49	92.38	95.26	98.15	101.04	103.92	106.81	109.70	112.58	115.47	118.36	121.24	124.13	127.02	129.90
210	85.79	89.36	92.94	96.51	100.09	103.66	107.24	110.81	114.39	117.96	121.54	125.11	128.68	132.26	135.83	139.41	142.98	146.56	150.13	153.71	157.28	160.86
275	96.33	100.35	104.36	108.37	112.39	116.40	120.41	124.43	128.44	132.46	136.47	140.48	144.50	148.51	152.53	156.54	160.55	164.57	168.58	172.59	176.61	180.62
345	105.83	110.24	114.65	119.06	123.47	127.88	132.29	136.70	141.11	145.51	149.92	154.33	158.74	163.15	167.56	171.97	176.38	180.79	185.20	189.61	194.02	198.43
415	115.93	120.76	125.59	130.42	135.25	140.08	144.91	149.74	154.57	159.40	164.23	169.06	173.89	178.73	183.56	188.39	193.22	198.05	202.88	207.71	212.54	217.37
490	123.93	129.10	134.26	139.43	144.59	149.75	154.92	160.08	165.25	170.41	175.57	180.74	185.90	191.07	196.23	201.39	206.56	211.72	216.88	222.05	227.21	232.38
550	132.66	138.19	143.72	149.25	154.77	160.30	165.83	171.36	176.88	182.41	187.94	193.47	199.00	204.52	210.05	215.58	221.11	226.63	232.16	237.69	243.22	248.74
630	140.85	146.72	152.59	158.46	164.33	170.20	176.07	181.94	187.80	193.67	199.54	205.41	211.28	217.15	223.02	228.89	234.76	240.62	246.49	252.36	258.23	264.10
700	149.66	155.90	162.14	168.37	174.61	180.85	187.08	193.32	199.55	205.79	212.03	218.26	224.50	230.73	236.97	243.21	249.44	255.68	261.91	268.15	274.39	280.62
770	155.95	162.45	168.94	175.44	181.94	188.44	194.93	201.43	207.93	214.43	220.93	227.42	233.92	240.42	246.92	253.41	259.91	266.41	272.91	279.41	285.90	292.40
840	162.97	169.76	176.55	183.34	190.13	196.92	203.71	210.50	217.29	224.08	230.88	237.67	244.46	251.25	258.04	264.83	271.62	278.41	285.20	291.99	298.78	305.57
900	169.70	176.78	183.85	190.92	197.99	205.06	212.13	219.20	226.27	233.34	240.41	247.49	254.56	261.63	268.70	275.77	282.84	289.91	296.98	304.05	311.12	318.20
980	176.63	183.99	191.35	198.71	206.07	213.43	220.79	228.15	235.51	242.87	250.23	257.59	264.95	272.31	279.67	287.03	294.39	301.75	309.11	316.47	323.83	331.19
1,035	183.30	190.94	198.58	206.21	213.85	221.49	229.13	236.76	244.40	252.04	259.68	267.31	274.95	282.59	290.23	297.86	305.50	313.14	320.78	328.41	336.05	343.69
1,120	188.47	196.32	204.17	212.02	219.88	227.73	235.58	243.43	251.29	259.14	266.99	274.85	282.70	290.55	298.40	306.26	314.11	321.96	329.81	337.67	345.52	353.37
1,190	194.32	202.41	210.51	218.61	226.70	234.80	242.90	250.99	259.09	267.19	275.28	283.38	291.48	299.57	307.67	315.77	323.86	331.96	340.06	348.15	356.25	364.35
1,260	200.00	208.33	216.66	225.00	233.33	241.66	250.00	258.33	266.66	275.00	283.33	291.66	300.00	308.33	316.66	325.00	333.33	341.66	350.00	358.33	366.66	375.00
1,330	205.52	214.09	222.65	231.21	239.78	248.34	256.90	265.47	274.03	282.59	291.16	299.72	308.28	316.85	325.41	333.97	342.54	351.10	359.66	368.23	376.79	385.35
1,400	211.66	220.48	229.30	238.12	246.93	255.75	264.57	273.39	282.21	291.03	299.85	308.67	317.49	326.31	335.13	343.94	352.76	361.58	370.40	379.22	388.04	396.86
2,500	282.84	294.63	306.41	318.20	329.98	341.77	353.55	365.34	377.12	388.91	400.69	412.48	424.26	436.05	447.83	459.62	471.40	483.19	494.97	506.76	518.54	530.33
2,800	299.33	311.80	324.27	336.75	349.22	361.69	374.16	386.63	399.11	411.58	424.05	436.52	448.99	461.47	473.94	486.41	498.88	511.35	523.83	536.30	548.77	561.24